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DYESTUFF REPORTER

OBER 7, 1946
UME 35, No. 20

DIAGEN* YELLOWS AY and A2Y

Both of these new stabilized azoic colors have good fastness to light and washing. They are especially recommended for decorative effects where brightness, ease of application, and low costs are important. Both have good solubility, stability in stock solutions, and non-specking qualities. When printed on cotton or viscose-process rayon, "Diagen" Yellow AY produces brilliant yellow shades. "Diagen" Yellow A2Y produces brilliant greenish-yellow shades. Each is supplied as a readily soluble powder or a 20% solution.

Our sales representative will gladly give you additional information about these two products and their uses. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

*REG. U. S. PAT. OFF.

Du Pont Dyestuffs

DU PONT
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CHEMICAL RESEARCH *for* *Fabric Perfection*

FORMASETS

Formasets, synthetic resin finishes for textiles, are again available without restriction. Several new types developed as a result of Warwick's war-time research have been added. Each Formaset has its particular advantages designed to solve specific finishing problems. Warwick technical advisors will gladly work with you in determining the correct Formaset for your needs.

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A Division of Sun Chemical Corporation

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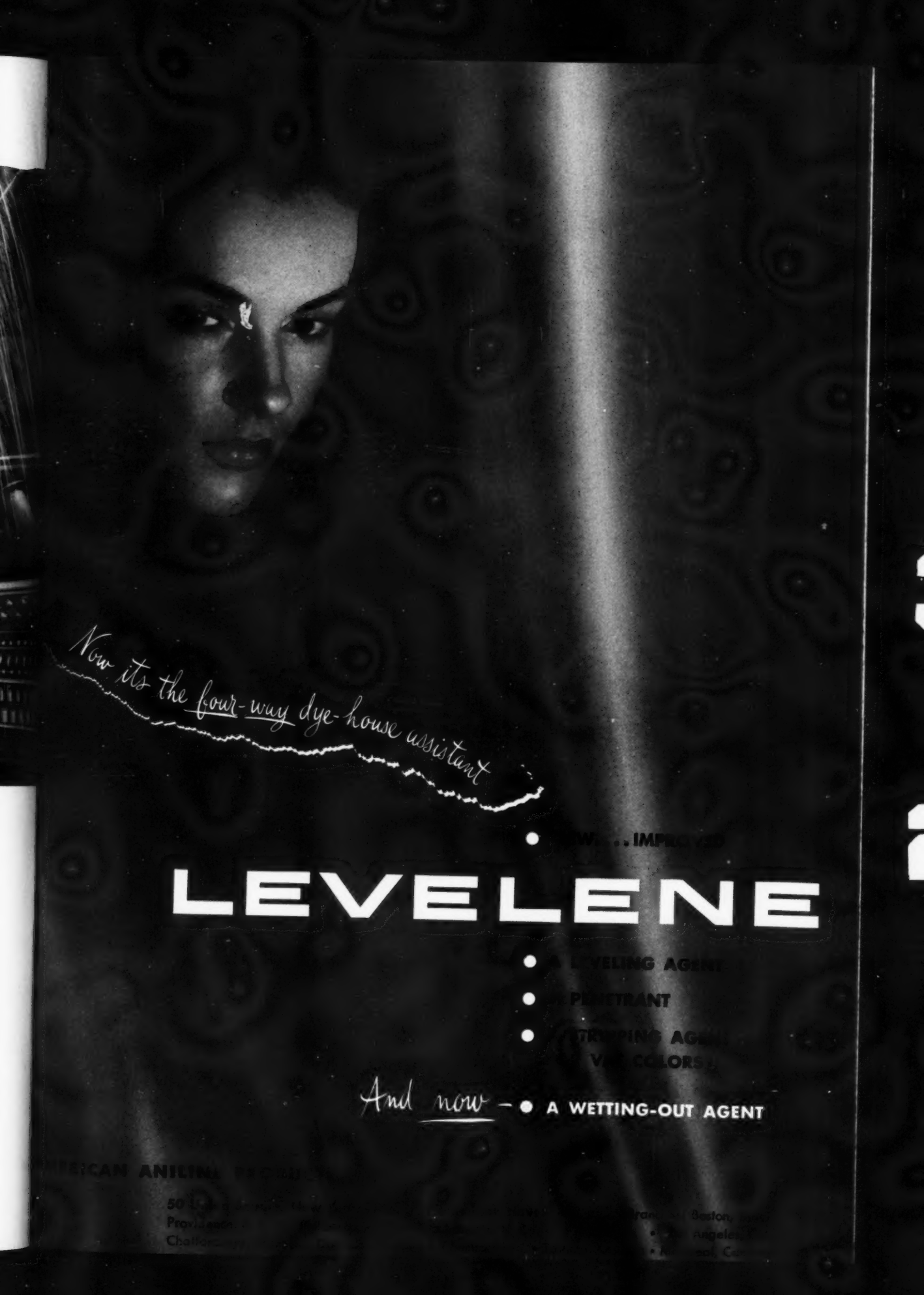
Now its the four-way dye-house assistant
LEVELENE
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TEXTILE CHEMICALS

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FINISHING MATERIALS

FOR

WOOL — COTTON — RAYON — ACETATE

AND MIXED FIBERS

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CANADIAN AGENTS:

Charles Albert Smith Limited, 123 Liberty St., Toronto, Canada

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DYEING CLOTH BY CRUDE HAND METHOD.
From early print* believed to be of the Fifteenth century. It was during this century that the first color regulations were issued by the City of Venice, and the Dyers Company was incorporated in London . . . *Reproduced by courtesy of New York Metropolitan Museum of Art.

Five Centuries of Progress...

THE continuous dyeing ranges of today stand in sharp contrast to the crude kettles of the 15th Century. Progress by the Dyeing Industry has been amazing both with respect to volume of production and quality of work. Preparatory processes, too, have been improved and have contributed generously to the success of the industry . . . . . The makers of RAPIDASE, for rapid dependable desizing, are proud to serve this industry and the men who continue the tradition of progress.

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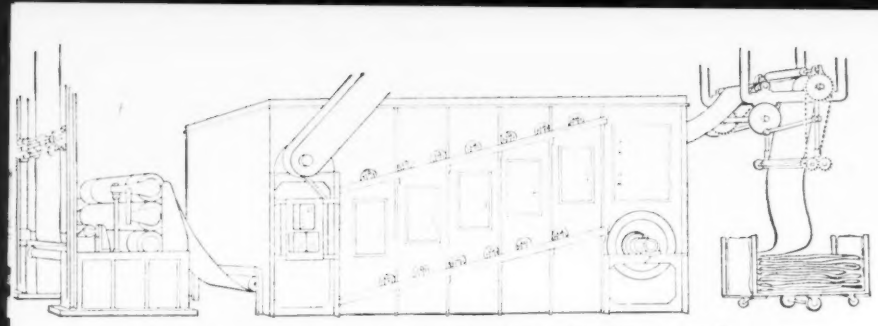
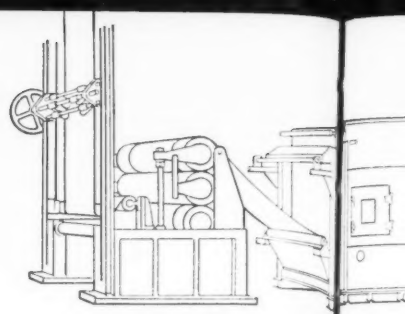
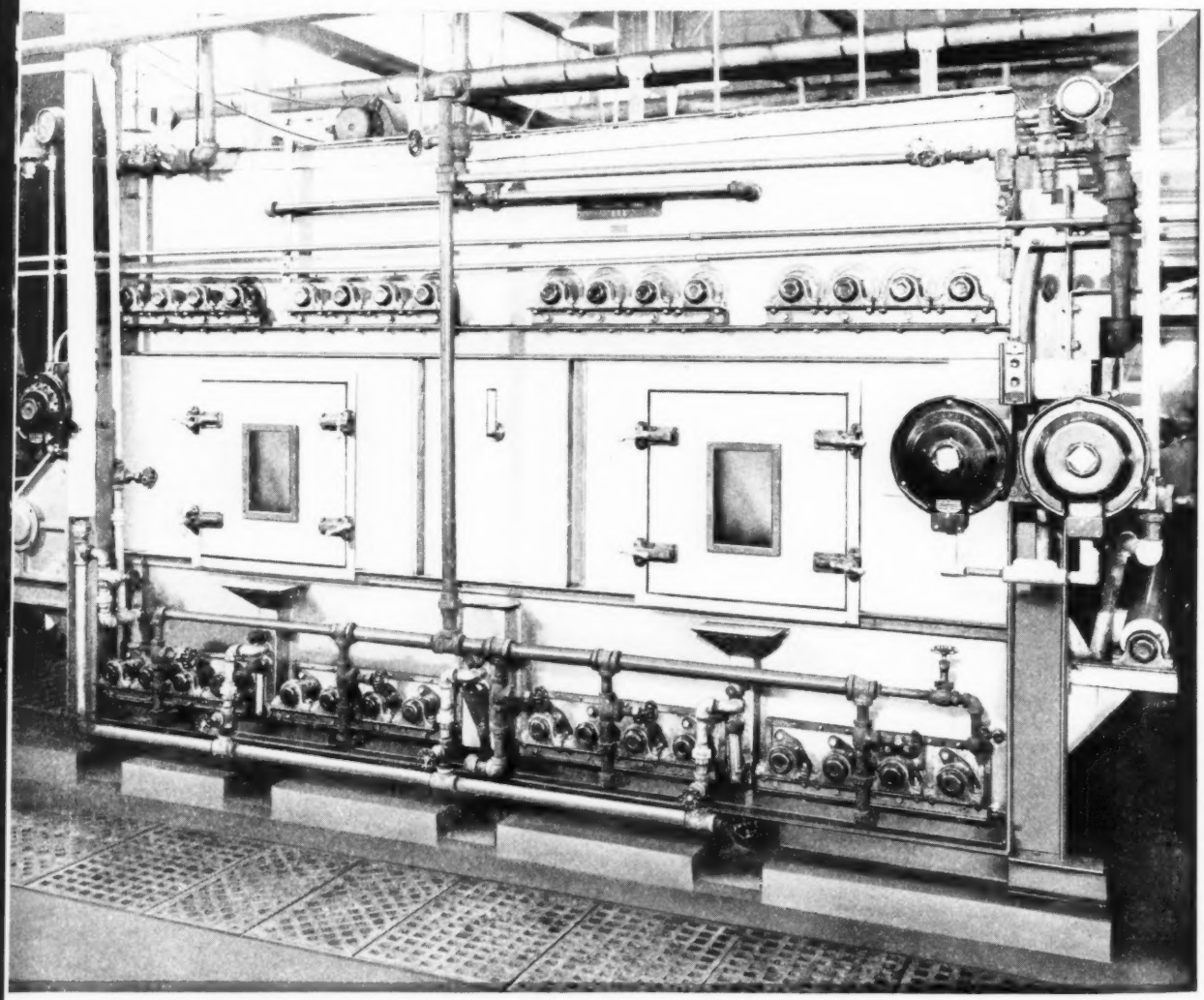
WALLERSTEIN COMPANY, INC. 180 Madison Ave., New York 16, N. Y.

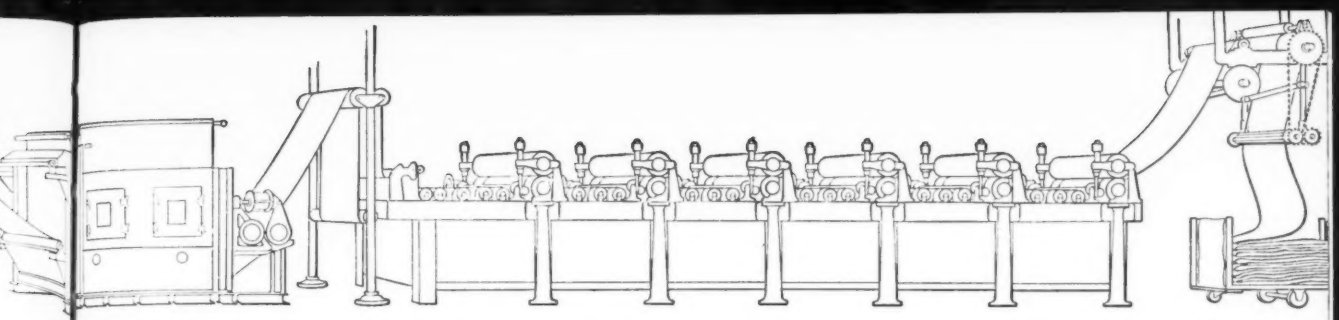




In the first section of the Butterworth Vat Dyeing Range, goods enter a 3-roll padder in which the color is applied in pigment form, followed by drying on a special type air-dryer and folding onto a hand truck from a 3-roll folder.



The Steamer used in the Butterworth Vat Dyeing Range is one of the most efficient textile finishing machines ever produced. By liberating "live" steam in an air tight chamber, this machine assures penetration of the dye into the heart of the fabric, and more thorough color fixation than ever before possible. Cloth enters at top for straight steam processes. Cloth enters at bottom through a liquid seal for steam and liquid booster processes. Choice of cloth entrance depends upon process used to obtain desired effects.



In the second section of the Butterworth Vat Dyeing Range, goods are impregnated with chemicals on a 3-roll padder and then enter a steamer. (Note choice of cloth entrance—at top for straight steam processes or at bottom through a liquid seal for steam and liquid booster processes.) After steaming, goods pass through a water seal and squeeze rolls, and are washed in a 6-box washer, followed by folding onto hand truck.

FAST SHADES AT 120 YARDS PER MINUTE WITH NEW VAT DYEING RANGE

Follow one yard of goods through the Butterworth Vat Dyeing Range . . . then compare the results with slow, one-step-at-a-time vat dyeing methods.

You will discover that the new vat-steam method of continuous dyeing produces fast shades at speeds ranging up to 120 yards per minute. You will see uniform color application in the pigment padder. You will see savings up to 25 per cent in dyestuff costs.

You will marvel at the thorough color fixation achieved with the Butterworth Steamer, the gentle, thorough efficiency of the Butterworth Compartment Washer.

Find out today about the economies and increased production of the Butterworth Vat Dyeing Range. Write us.

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THIS KNITTED WOOL FABRIC MAY BE HAND WASHED AND READILY RESTORED TO WITHIN 5% OF ORIGINAL DIMENSIONS BY CONFORMING TO RECOMMENDED WASHING INSTRUCTIONS.

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LANASET Resin is now *first* to bring to the consumer wool merchandise that has been made amazingly washable as confirmed by tests of independent textile laboratories.

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Cation-Active Softening Agents for Durable Drape and Hand

THE ONYXSANS impart softness, smoothness and drape to fabrics which otherwise would be harsh, rough, coarse and almost impossible to improve by chemical treatment.

These improved effects are obtained with extremely small amounts of Onyxsan, since they are brought about, not by a superficial oiling of the yarn, but by qualities introduced INTO the yarn itself.

The finish is durable on *any* fabric, and *permanent* on cotton and rayon.

No odor or rancidity, no stiffening and no alteration in color will develop in fabrics finished with Onyxsan.

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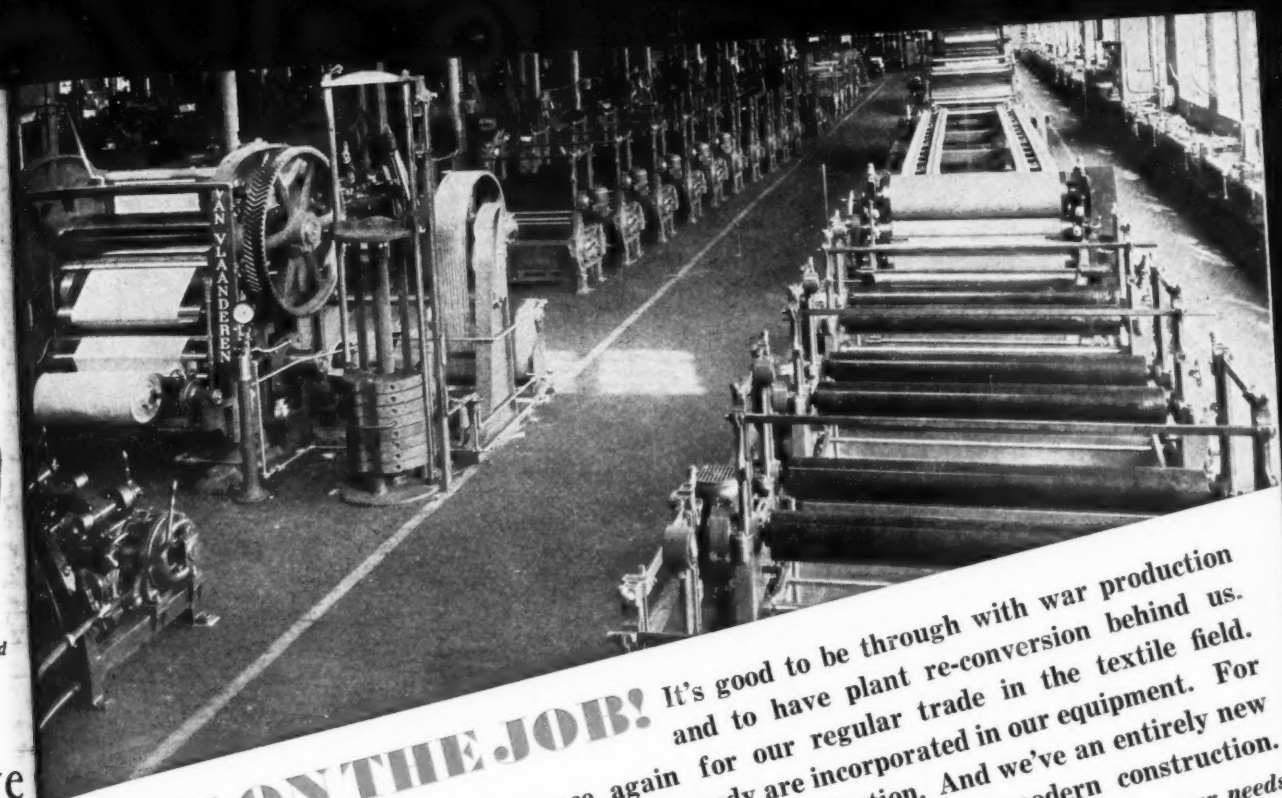

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ARIPEL-FS is also an effective softener and therefore works two ways in a one bath treatment —

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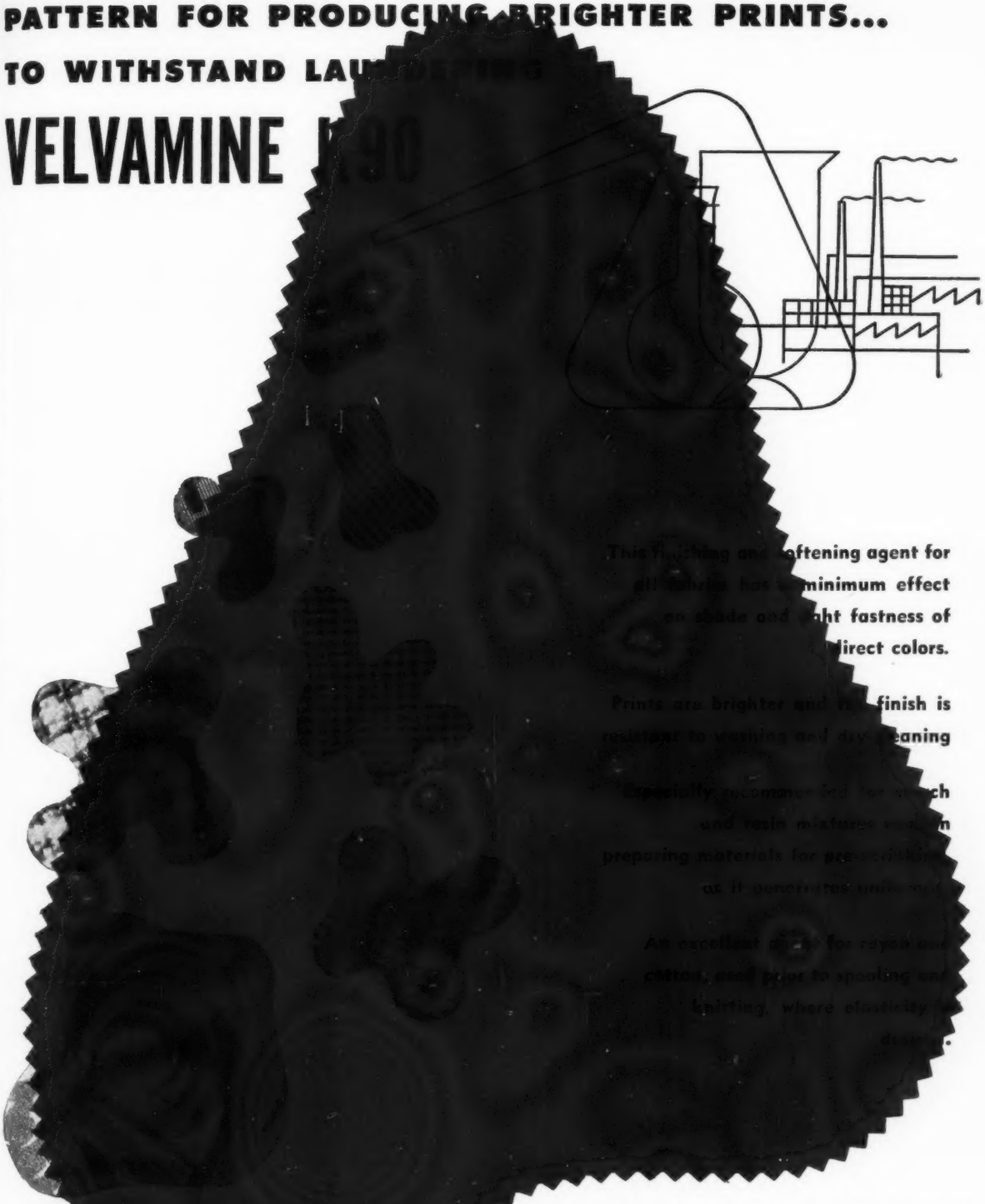

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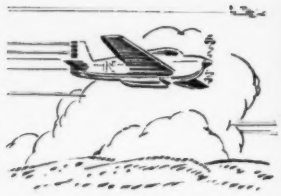

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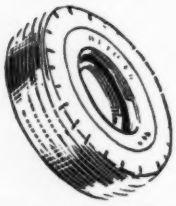

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Uniformity is of course your first requisite, and that's what you get from Hooker. Every shipment of Hooker Aluminum Chloride, Anhydrous, is of the same high purity as the previous one. You can count on uniform results in your processes where they depend on uniform purity of the Aluminum Chloride you use.

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Fine Grind—an unscreened material practically all passing 20 mesh.
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Whether you want to use Aluminum Chloride for a catalyst in Friedel-Crafts synthesis, polymerization, isomerization or halogenation, Hooker can supply it in the form best suited for your processes. As a catalyst in the preparation of derivatives for use in the manufacture of high octane gasoline, lubricants, synthetic rubber, dyes, varnishes, pharmaceuticals, etc., Hooker Aluminum Chloride has a freedom from iron and other impurities that insures smooth reactions.

Hooker Data Sheet No. 714, yours for the asking on your company letterhead, gives additional physical and chemical data. Hooker's Technical Staff is also ready to help you with the application of Aluminum Chloride and the other Hooker Chemicals to your particular problems.

HOOKER SPECIFICATION

Aluminum Chloride, Anhydrous, $AlCl_3$

Gray, Crystalline solid

Molecular Weight 133.3

Analysis

Aluminum Chloride	98.5 % min.
Iron	0.05% max.
Non-sublimables in air at 950°C	1.5 % max.

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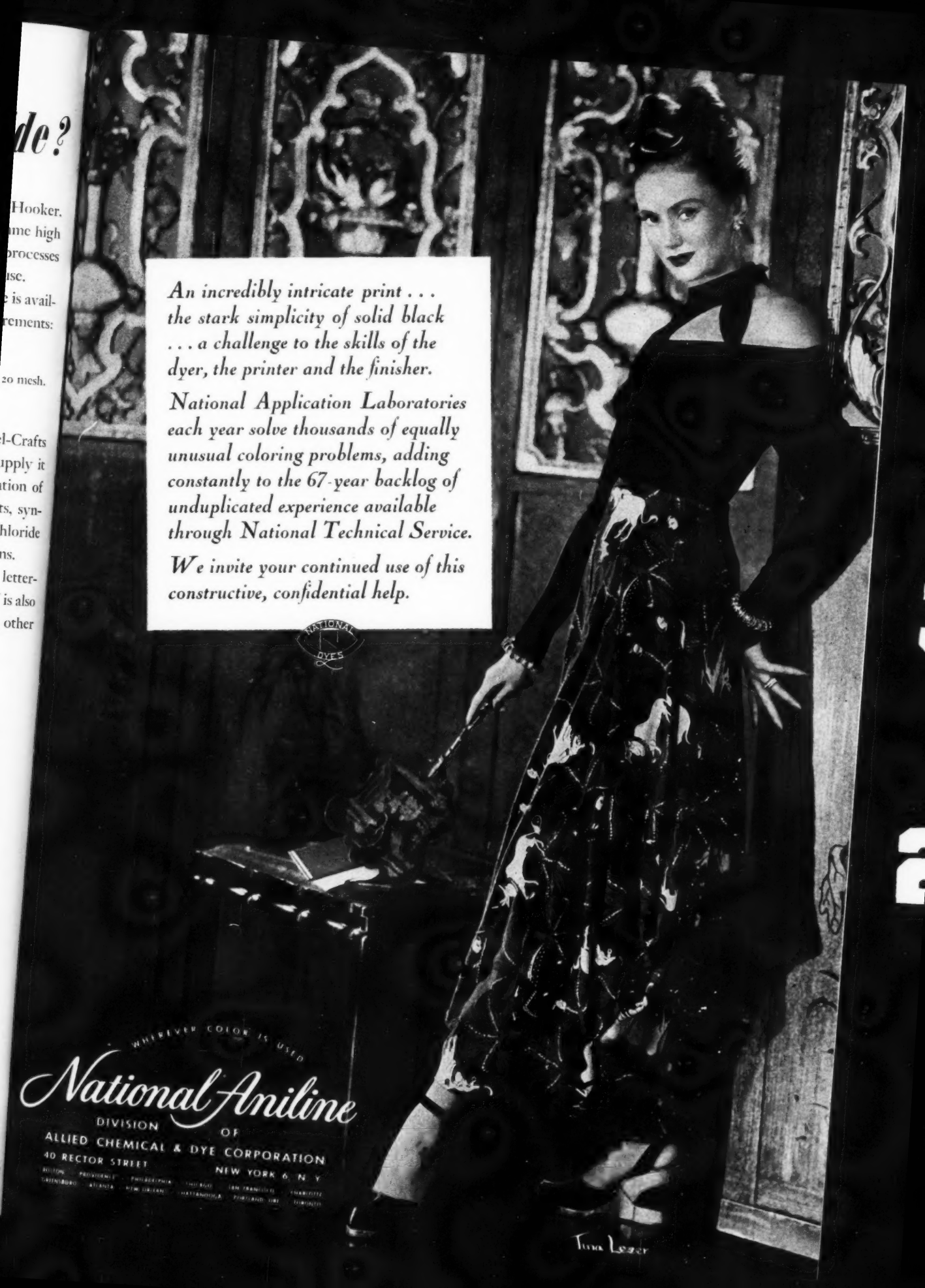
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No Discoloration, Even After Long Storage, When You Use S/V Worstex Oils

You get many advantages with S/V Worstex Oils in your Worsted processing.

For instance, your tops are lofty and white...and they *stay* white, even after long storage.

The reason: These superior oils are both light colored and highly resistant to oxidation. They give you uniform drawing, combing and gilling. Comb pins are clean, free of corrosion. Drawing rolls have less gum.

All of this adds up to more continuous operation and greater production.

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The S/V Worstex line includes correct oils for both Bradford and French-type yarns. Ask your Socony-Vacuum Representative for details.

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SOCONY-VACUUM PROCESS PRODUCTS
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S/V Woolrex Oils

Improve carding and spinning. Scour out easily.

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S/V Worstex Oils

Lubricate stock uniformly, improve spinning.

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WATER REPELLENTS
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Give inexpensive water repellency.

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Plasticize starch mixtures.

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Lubricate, soften and deluster rayon fibers.

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Special Oils, Waxes

Provide waterproofing, lubrication and softening.

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The smoothness of these stainless steel drying forms protects women's stockings from snags. Stainless steel has no surface plating to chip, peel, or rust. Thus, even during the "stripping" operation, shown here, the delicate fibers are not endangered because there are no rough surfaces.

Stainless steel is used extensively throughout the textile industry. Its usefulness has long been recognized, especially in dyeing operations, where its high resistance to corrosion and ease of cleaning are of particular advantage.

To keep informed of the newer uses of stainless and other alloy steels, ask to receive our monthly publication ELECTROMET REVIEW. If you wish information on the production, properties, or fabrication of these steels, write our Technical Service Department. Although we do not make steel, we do produce the ferro-alloys which are used in its manufacture, and our engineers have accumulated a fund of information on the use of stainless steel in many industries.

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BEAUTIFUL ENDURING STRONG TOUGH
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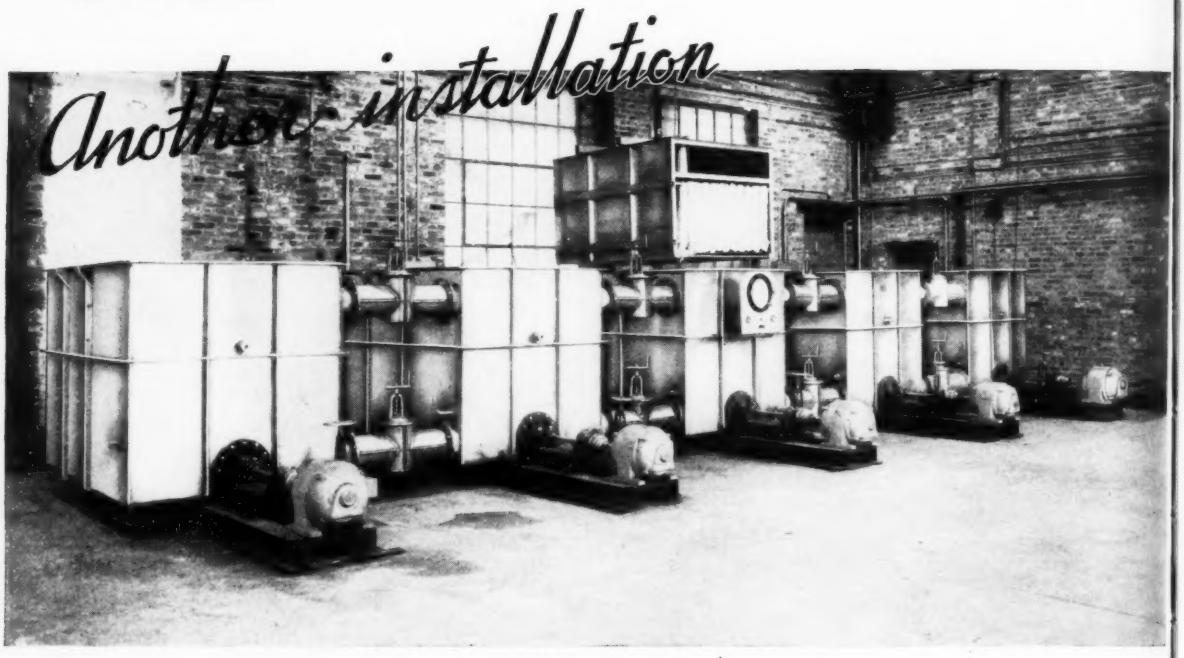
TRADE MARK



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Five units, each, of 200 pounds capacity, can be used singly or, by opening the connecting valves, in any combination of units up to five, for one color.

1000 pound batches, in one uniform color, or five 200 pound batches of different colors, can be dyed at one time. There is no possibility of felting as the yarn remains stationary.

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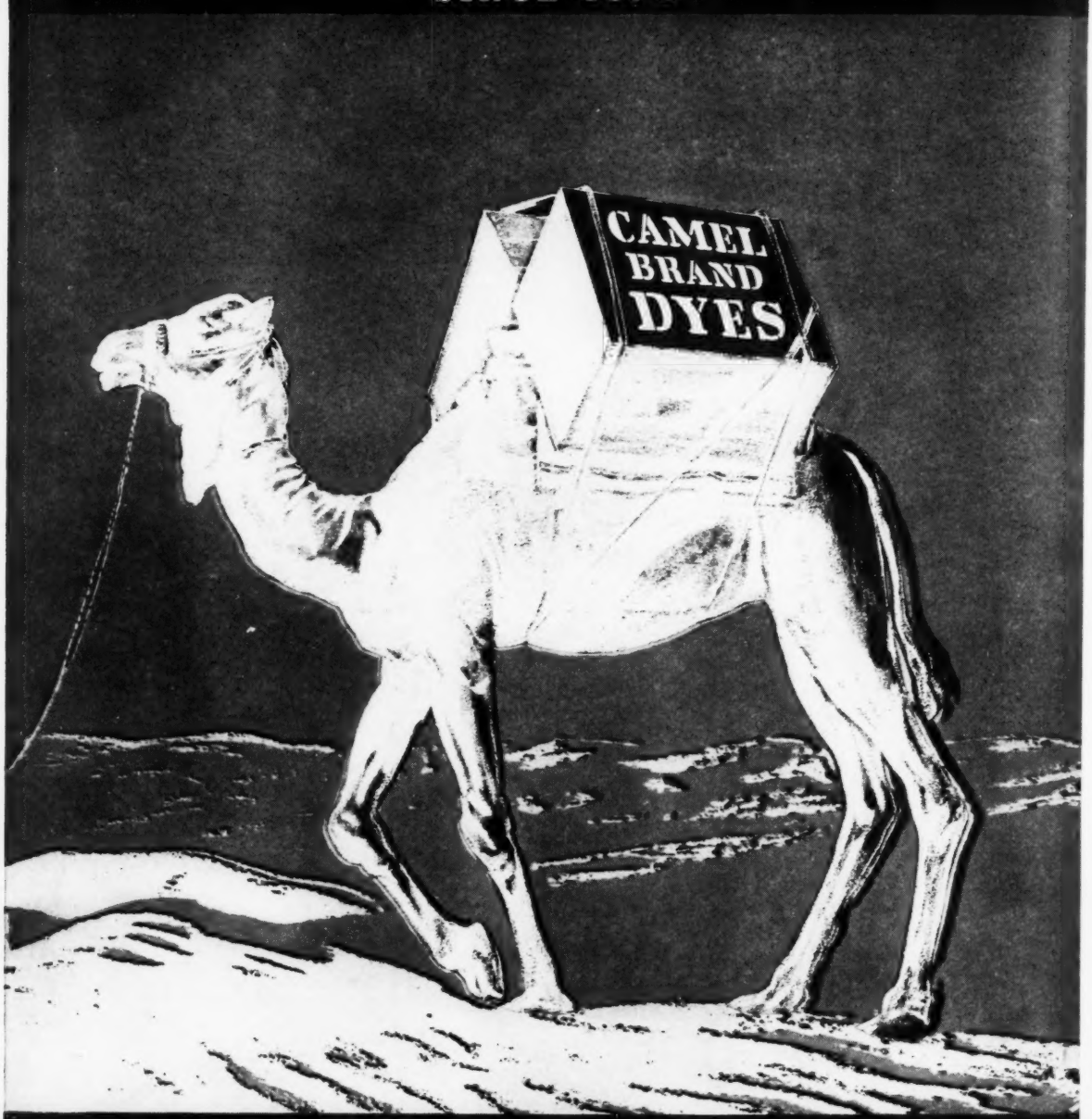

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• The latest development in textile softeners, equally suitable for use on cotton, linen, silk, wool, synthetic fibres and mixed fabrics. A full supple hand is given by Lupomin—laundering leaves the finish smooth, soft and silky.

Economical-to-use Lupomin is available in all pHs, in both paste and powder forms, in chemical formulae to meet any fabric requirement—for the dyebeck, jig, quetch or padder. Your inquiry is cordially invited.

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NALEX is a worsted warp sizing starch that greatly increases the tensile strength of worsted yarns. It has increased weaving efficiency in leading mills from 10% to 15% — over ordinary warp sizing.

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— as a result, NALEX sizes with greater uniformity . . . penetrates deeper . . . adheres all loose fibers securely . . . and forms a strong, smooth continuous film on the yarns to attain maximum elasticity — and greatly reduce warp breakages.

NALEX is colorless, nearly transparent. It retains the full depth of shade in bright colored yarns. It is also being widely used for fine combed cotton yarns, carded cotton yarns as well as worsted yarns of all types.

NALEX is readily available at savings from $500 to $1,000 a carload over ordinary warp sizes. Ask for a trial demonstration. A National technician can run off a few beams without upsetting your regular production.

National also produces: KOVAT, a cold water swelling gum for all textile printing; FLOJEL, uniform, thin boiling corn starches in all standard fluidities; HOOSIER Pearl Cornstarch; FIBERTEX for textile finishing; and AMBERTEX, a heavy-bodied thickener for white discharge, direct and vat color printing.

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Chemical Control Gives Improved Wool Scouring*

Bicarbonate Concentration is Found to Be a Critical Factor

A. L. DUBEAU and G. P. VINCENT

The Mathieson Alkali Works (Inc.)

LONG experience has shown that scientific process control is the key to successful industrial operations. Believing that wool scouring is no exception to this rule, this laboratory undertook a thorough investigation of the conventional wool scouring process, in order to determine optimum scouring conditions. A most important discovery made in the course of these studies was that bicarbonate, formed in the scouring of wool, plays a critical role in the scouring process. It was found that greatly improved efficiency and quality of both shorn and pulled wool scouring may be obtained through the use of simple chemical controls regulating the proportion of bicarbonate in the scouring solution.

Shorn Wool

In carrying out this investigation on a plant scale, shorn wool was treated as follows:

The wool was fed to the system at the rate of about 1,000 pounds per hour, and was deswinted with cold water in the first bowl. The liquor in the No. 2 bowl consisted initially of 3,500 gallons of water, 120 gallons of soda ash solution containing 92.5 pounds of soda ash, and 30 gallons of soap solution containing 8.3 pounds of soap, while the liquor in the No. 3 bowl at the beginning of the operation consisted of 1,500 gallons of water, 60 gallons of soda ash solution containing 46.25 pounds of soda ash, and 30 gallons of soap solution having a soap concentration of 0.277 pounds per gallon. As the scouring proceeded, the liquor in the No. 2 bowl was fortified every 45 minutes by the addition of 36 gallons of soda ash solution containing 27.8 pounds of soda ash, and in the No. 3 bowl by the addition of 18 gallons of soda ash solution containing 13.9 pounds of soda ash together with 12 gallons of soap solution containing 3.33 pounds of soap.

At the end of each six-hour period, half of the scouring solution was withdrawn from both scouring bowls and the withdrawn solution replaced with water. Following each addition of make-up water, 90 gallons of soda ash solution containing 69.5 pounds of soda ash and 30 gallons of soap solution containing 0.277 pounds of soap per gallon were added to the No. 2 bowl, and 45 gallons of soda ash solution containing 34.6 pounds of soda ash and 30 gallons of soap solution containing 0.277 pounds of soap per gallon were added to the No. 3 bowl.

During this process, a sample of the scouring liquor was taken from the first bowl, before each addition of soda ash and soap was made. The sample was analyzed for soda ash and bicarbonate in the following manner: A 10 cc. sample was titrated with N/10 hydrochloric acid to the phenolphthalein end point. The sodium carbonate content of the solution in grams per liter was obtained by multiplying the number of cubic centimeters of acid required by 1.06. The same sample was then titrated to the methyl orange end point. The additional number of cubic centimeters to the methyl orange end point minus the number of cubic centimeters to the phenolphthalein end point multiplied by 0.84 gave the sodium bicarbonate concentration in grams per liter. While a certain amount of alkalinity may have been contributed by other factors, a comparison of the two figures indicated, in general, the relative proportion of carbonate and bicarbonate in the scouring solution at the time the sample was taken.

The results of these tests are given in Table I.

It can be seen from this table that the spread between the two end points became progressively larger, indicating that the proportion of bicarbonate increased, or that the ratio of carbonate to bicarbonate became smaller as scouring proceeded.

The significance of these figures became evident when it was discovered that the

TABLE I

Sample No.	*CC's 0.1 normal HCl to Phenolphthalein End Point*	*Total CC's 0.1 normal HCl to Methyl Orange End Point*	*Alkalinity Calculated as* Na_2CO_3	$NaHCO_3$	*Apparent Ratio Carbonate : Bicarbonate*
1	2.	5.3	2.12	1.09	1:0.51
2	1.9	6.9	2.01	2.6	1:1.29
3	2.3	8.6	2.44	3.36	1:1.39
4	2.3	10.6	2.44	5.04	1:2.06
5	2.4	13.1	2.54	7.17	1:2.82
6	2.9	14.6	3.07	7.59	1:2.47
7	2.9	16.1	3.07	8.65	1:2.82
8	2.7	16.7	2.86	9.49	1:3.32
9	2.4	17.3	2.54	10.5	1:4.13

* This process is the subject of patent applications in the United States and foreign countries.

rate of scouring was closely related to this ratio. At the beginning of the scouring operation, when no bicarbonate was present, there was an initial lag in the rate of scouring. Then, as bicarbonate was formed, the rate of scouring rapidly increased to 1,200 pounds per hour. This increase was explained by the lowering of the pH from about 11.4 to about 9.8 to 10, and by the "opening" effect which bicarbonate had on the wool.

As the proportion of bicarbonate continued to increase, however, it was found that the rate of scouring eventually decreased, making it necessary to reduce the amount of wool being fed. At the end of 6 hours, the rate had fallen to 700 pounds per hour.

In studying these figures, it was observed that the optimum alkalinity ratio of carbonate to bicarbonate was 1:1, and that for practical purposes it was desirable to keep the ratio within the limits of 1:0.5 to 1:2. When the proportion of bicarbonate was below this range, scouring lagged. When it was above, scouring was again slowed. *By maintaining the ratio of alkalinities within this range, scouring was kept uniformly at the maximum rate of 1,200 pounds per hour throughout the cycle.*

As a result of this discovery, a scouring process has been developed which satisfies these optimum conditions. In this new process, the bicarbonate is kept within the prescribed limits by the addition of controlled amounts of aqueous caustic soda, which reacts with the bicarbonate to form carbonate, as follows:

$$NaHCO_3 + NaOH \longrightarrow Na_2CO_3 + H_2O$$

It is desirable to have a 1:1 ratio of soda ash and bicarbonate of soda at the beginning of the scouring operation. Then, as scouring proceeds, the caustic soda may be added to the first bowl, either continuously or intermittently, in controlled amounts.

The caustic is not added directly to the bowl, since it may prove harshening, but is instead first added to some of the liquor removed from the bowl, and the resulting solution is then added to the scouring bowl, in this fashion. Some scouring liquor is withdrawn from the wool-exit end of the bowl, passes through a trough or tank where the caustic solution is charged to the liquor, and the adjusted liquor is then pumped back into the wool-entering end of the bowl. The caustic solution should have a concentration of about 0.5 pounds of sodium hydroxide per gallon. The rate at which the caustic solution is added is determined, of course, by the rate of bicarbonate formation.

If the caustic is added continuously, a variable feed pump may be used. The continuous process obviously minimizes the laborious operation of draining and recharging the bowls.

The application of this method of scouring may be illustrated by the following example:

The wool treated was shorn wool. The run was started immediately after the bowls had been half-emptied and the removed scouring liquor replaced with water. Following addition of make-up chemicals, 10 cc. samples of the scouring liquor were titrated with 0.1 normal HCl. 2.7 cc. of acid were required to reach the phenolphthalein end point and 7.1 cc. of acid to reach the methyl orange end point.

The wool was fed to the system at the rate of about 1,200 pounds per hour. The caustic solution used consisted of 20 pounds of sodium hydroxide in 50 gallons of water. The solution was continuously added to the liquor from the first scouring bowl only, and at a rate equivalent to 3.5 pounds of NaOH per thousand pounds of wool. The data on this run and the data on a second run, similarly conducted, are given in Tables 2 and 3.

Pulled Wool

In the scouring of pulled wool with soap and soda ash, insignificant amounts of bicarbonate are present, since whatever bicarbonate is formed is rapidly converted to carbonate by the action of the alkali in the wool. The reason for the slowness of pulled wool scouring may readily be understood from the fact that so little bicarbonate is present.

In investigating the effect of bicarbonate addition in the scouring of pulled wool, it was found that a very marked improvement was obtained. By keeping the proportion of bicarbonate within the limits already described for the scouring of shorn wool, the rate of scouring was raised from 300 to 700 pounds per hour.

To accomplish this result, the initial scouring solution was made up with the proper amount of bicarbonate, and the correct concentration was subsequently maintained by the continuous or intermittent addition of bicarbonate. The process may be illustrated by the following example:

In this instance, "pulled" wool was treated at the rate of 700 pounds per hour. The scouring was carried out at a temperature of 130° F. and the make-up on the scouring bowls was as follows:

Water	3,750 gallons
Sodium Bicarbonate	300 pounds
Sodium Carbonate	180 pounds
Soap	12 pounds

During the course of the run, 100 additional pounds of sodium bicarbonate were added to the first scouring bowl in increments of about 16 pounds. Data on the run is given in Table IV.

As was expected, the use of a scouring process in which chemical controls regulate the proportion of bicarbonate in the scouring solution results in several im-

TABLE II

Time	Sample No.	CC's 0.1 normal HCl to end point Phenolphthalein	CC's 0.1 normal HCl to end point Methyl Orange	Alkalinity Calculated as Na_2CO_3	Alkalinity Calculated as $NaHCO_3$	Apparent Ratio Carbonate : Bicarbonate
11.30	1	3.4	10.5	3.60	3.11	1: .86
12.00	2	3.1	10.5	3.29	3.61	1:1.1
12.30	3	3.3	10.5	3.5	3.28	1: .93
1.00	4	3.0	10.5	3.18	3.78	1:1.1
1.30	5	2.9	10.7	3.07	4.11	1:1.3
2.00	6	2.7	11.2	2.86	4.89	1:1.7
2.30	7	2.6	9.7	2.76	3.78	1:1.3
3.00	8	2.4	9.7	2.54	4.11	1:1.6
3.30	9	2.4	10.2	2.54	4.53	1:1.7
4.00	10	2.5	10.2	2.65	4.37	1:1.6
4.30	11	2.6	10.3	2.76	4.28	1:1.5
5.00	12	2.6	11.2	2.76	5.04	1:1.8

TABLE III

Time	Sample No.	CC's 0.1 normal HCl to end point Phenolphthalein	CC's 0.1 normal HCl to end point Methyl Orange	Alkalinity Calculated as Na_2CO_3	Alkalinity Calculated as $NaHCO_3$	Apparent Ratio Carbonate : Bicarbonate
9.30	1	3.7	11.3	3.92	3.28	1: .83
10.00	2	3.9	12,6	4.13	4.05	1: .95
10.30	3	4.1	13.2	4.35	4.2	1: .96
11.00	4	4.7	13,9	4.98	3.78	1: .75
11.30	5	3.9	13.1	4.13	4.45	1:1.07
12.00	6	4.3	13,3	4.56	3.85	1: .84
12.30	7	4.0	13.3	4.24	4.45	1:1.05
1.00	8	4.0	13.4	4.24	4.53	1:1.06
1.30	9	3.8	13.0	4.02	4.53	1:1.12
2.00	10	3.4	12,8	3.60	5.04	1:1.4
2.30	11	3.4	12.8	3.60	5.04	1:1.4
3.00	12	3.2	12,8	3.39	5.38	1:1.5
3.30	13	3.4	12.6	3.60	4.89	1:1.35
4.00	14	3.1	12,8	3.29	5.54	1:1.6
4.30	15	3.2	13.0	3.39	5.54	1:1.6

TABLE IV

Time	pH	% Na_2CO_3	% $NaHCO_3$	Ratio Carbonate : Bicarbonate
2.30	9.1	.3	.5	1:1.7
4.00	9.5	.54	.61	1:1.14
6.00	9.7	.72	.55	1: .16
7.15	9.8	.76	.43	1: .56
9.30	9.8	.74	.53	1: .71
11.00	9.8	.76	.45	1: .59

portant improvements:

1. *Increased rate of scouring.*

Since guesswork and error are eliminated, so that optimum conditions are maintained at all times, the scouring proceeds at a uniformly high rate, giving marked increases in the efficiency of both shorn and pulled wool scouring.

2. *Improved quality of wool.*

The process keeps the pH of the scouring solution at all times below the point where it would harm the wool. There is a marked reduction in the salt concentration when this controlled process is used, so that the harshening effect on the wool is avoided. On the whole, chemical control minimizes the chemical effect on the wool (that is, decreases the production of noils and increases the yield of tops).

For these various reasons, the wool which results from this controlled scouring process has been found to be more uniform in texture, cleaner, and easier to card than wool produced by the conventional process, yielding a product superior from the standpoint of hand, appearance and wearability.

3. *Reduced cost.*

The chemical costs of the scouring process are considerably reduced, through a reduction in the amount of soda ash and soap required.

Labor costs are reduced because the bowls run longer, draining is less frequent, and caustic soda does not need to be dissolved (since caustic may be purchased as a 50 per cent liquor).

Of particular value is the fact that the use of a uniformly operating process makes it possible to introduce automatic equipment, thus reducing supervisory labor.

Finally, the increased rate of scouring naturally gives a more economical process.

Dyeing Cotton Hanks with Sulfur Colors*

SULFUR colors are fairly extensively used on cotton hanks, the shades in frequent demand being somber ones, such as drab, khaki, red brown, dark brown, deep blue, slate and black. They are, on the whole, easy to apply to cotton hank stock, and the shades produced possess excellent all-round fastness apart from the fastness to chlorine bleaching, which is often unsatisfactory.

Many of these sulfur colors produce shades having a fastness to scouring and milling in soap and soda ash solution which is usually adequate for the purposes of the fancy woolen manufacturer; a still better fastness to scouring and milling can be obtained with appropriate after-treatment processes for certain colors.

Loss and Change

Some loss in the depth of the shade as well as an appreciable change in timber is frequently to be noticed in various compound shades processed with sulfur dyestuffs after union goods have been cross-dyed in a boiling, acidified bath and processing has lasted for several hours. Although the amount of sulfur color shed by the cotton during the process may seldom be large, it sometimes happens that sufficient color leaves the vegetable film to bring about a serious and almost indelible staining of light-colored animal fiber in the same piece. This is often encountered during the acid cross-dyeing of piece goods made of uncolored mohair and cotton that has been processed in warp form with sulfur black.

Small batches of cotton hanks—10 bundle (100 lb.) lots, for example—to be colored with sulfur dyestuffs are frequently processed in rectangular becks, the hanks being suspended in the liquor from wooden sticks or iron rods. A beck of medium size holds about 200 gal. of liquor. Iron becks withstand the boiling liquor better than wooden ones, for the timber in the latter soon turns soft and spongy if the beck is frequently used for heavy shades. In some works, becks formed of stone slabs bolted together are favored; these are clean in use, but they take up more floor space than iron and wooden ones.

As with wooden becks, so with wooden yarn poles—they are not very suitable for everyday use in the processing of heavy shades on cotton hanks with sulfur colors because the wood soon becomes soft and spongy, and numerous ragged splinters appear on the surface of the poles which are apt to damage the yarn threads when the poles are being loaded and unloaded. Fine-count yarn may be seriously damaged by these splinters. In some cotton hank dyehouses, iron yarn poles are used, but they are rather heavy, and when loaded with wet hanks tax the strength of the beck laborers to the utmost. Some dyers use iron poles shaped like a broad letter U. With these the upper portion of every hank on each pole is entirely submerged in the liquor; they are more inconvenient to handle than straight poles but are more suitable in the application of sulfur colors of the kind that give trouble from bronzing as the result of a too-frequent contact with the atmosphere while at the reduced or leuco stage. Iron rods should always be wiped down with a greasy rag saturated with mineral oil at the end of the day's work to prevent rusting of the metal and possible trouble from iron stains on the yarn.

Large batches of hanks are usually dealt with in one of the various cotton hank dyeing machines rather than in open-top hand-operated becks. In certain hank dyeing machines, the hanks are given a to-and-fro motion in the liquor in imitation of the movement of workmen operating rods of hanks in an open-top beck; in other machines the hanks remain still while the liquor is caused to flow through the mass of threads by direct steam pressure paddles, a pump, or a propeller. Examples of dyeing machines in which the load is stationary in a moving stream of liquor are the Hussong, the Rhodes and the Simplex.

The Rhodes Machine

The Rhodes cotton hank dyeing machine is widely used in the production of black and other deep colors of a somber type.

*Reprinted from THE DYER & TEXTILE PRINTER, England

Perhaps its chief defect in these days of coal shortage is its high steam consumption, plenty of steam at a comparatively high pressure being essential for a satisfactory circulation of the liquor through the load. The vessel of the Rhodes machine is oblong and has two narrow conduits on the two long sides through which liquor is forced by direct steam pressure; the base of each conduit is open to a liquor reservoir arranged immediately underneath the perforated gratings or below the closely spaced iron bars that form the false floor which supports the load of stock. Each of the conduits is capped by a baffle-plate, a space being left between the top of the conduit and the baffle piece to allow egress of liquor. The opposing streams of liquor flowing from the conduits meet above the general level of liquor in the vessel and together fall in a fairly uniform torrent over the stock. The liquor afterwards percolates by gravity through the hanks and finally collects in the reservoir underneath the false floor, and is again circulated.

Packing the Load

In order to gain a level result when processing a fairly pale shade in the Rhodes machine, it is essential so to arrange the packing of the load that there is no possibility of liquor channels forming when circulation begins. If such channels develop, the liquor takes the easiest paths to the bottom of the vessel, namely, the channels which exist in the mass of hanks. As a result penetration of the load is imperfect with consequent unlevel dyeing.

Dyers with loose cotton to be colored the same shade as the hanks place a quantity of the loose stock on the perforated floor of the vessel before laying the bundles of hanks in position and a similar quantity of loose cotton on top of the hanks. The two layers of loose cotton filter out scum and coarse particles of insoluble impurities in the liquor, and also tend to equalize the flow of liquor through the entire load. The amount of loose cotton used varies; some men put 50 lbs. of it underneath a load of 600 lbs. of hanks, and about 150 lbs. of the loose stock on top.

Almost any kind of loose cotton stock will serve: carded and uncarded peru cotton, greasy roller-ends, roving waste, etc., are all suitable for the work. Glass "wool" in fibrous form may be used, preferably with a quantity of coarse fabric woven from glass fiber. The glass cloth should be formed into a container similar to an eiderdown bed-quilt, the fibrous glass wool being loosely packed into it until the whole is 5 or 6 inches thick. The quilt may be buttoned at suitable intervals like a bed-quilt to prevent shifting of the stuffing when the contrivance is lifted out of the dyeing machine saturated with liquor or wash-water; the buttons should be of earthenware or glass. The great advantage of the glass quilt is that it may be used repeatedly with batches of hanks for all the shades the sulfur color dyer is likely to need, with little more than a brief boil-off in sodium sulfide liquor to remove residual color entrapped in the form of coarse particles in the fibrous stuffing material. Should a white deposit of free sulfur form on the surface of the quilt, the remedy is to treat the quilt in a hot solution of sodium sulfite.

In some dyehouses it is customary for each 10 lb. bundle of cotton hanks to be placed into the vessel of the Rhodes dyeing machine without being first wetted; each bundle consists of several "noddles" of hanks tightly bound together with four lengths of cord. Two of the cords are removed by the workmen who prepare the yarn for the dyeing machine, and the remaining two cords are slackened. The noddles in each bundle are freed from twist by being shaken in the hand before the two binding cords are replaced. Some dyers take all four binding bands off and divide each 10 lb. bundle into two equal portions; the two half-bundles are then corded up, the cord being left very slack to allow for any shrinkage occurring in the boiling dye-bath, which might produce a light-colored mark on each hank where the cord was twitched up.

Before any loose cotton is placed on top of a load of hanks in a Rhodes dyeing machine, it is essential for the topmost layer of hanks to be covered with one or two sheets of hessian, or common sacking. The hessian should be tucked well down at the corners of the vessel and all around the sides; this precaution helps to prevent the development of liquor channels at the sides and corners of the vessel and, furthermore, stops wads of loose cotton working downwards and into the threads of the hanks. The presence of much loose cotton firmly entangled in the hank threads makes winding the hanks on to cheeses a difficult matter; in extreme cases, the hanks have to be scrapped, since they are fit for nothing else but reconversion into fibrous form in a garnetting machine.

A common procedure among users of the Rhodes machine and similar dyeing machines when the bath is being stuffed is to remove part of the false floor of the vessel and to put the charge of dyestuff, etc., into the space disclosed. The floor plates or bars, as the case may be, are replaced, and the hanks and loose cotton packed into the vessel in a dry state. When this has been done, the bath is filled to working height with liquor drawn from a reserve tank; steam is turned on, and circulation begins. This method is only suitable for a light load of stock: if the load to be processed is a large one, the usual procedure is first to place the dyestuff, etc., underneath the false floor of the vessel; run in sufficient liquor to cover the floor plates to a depth of about 6 inches; turn on the steam, and let the bath boil up until solution of the dyestuff, soda ash, and sulfide, has been effected. Next, the predetermined weight of loose cotton is thrown into the short bath, boiling being continued as the cotton is entered in order that the stock shall be saturated. When the whole of the first charge of loose cotton has been boiled down, steam is turned off, and a sheet of stout hessian is dropped on top of the mass of cotton lying on the floor plates. The sheet of hessian is spread as evenly as possible over the cotton with broomsticks or spare hank rods. This spreading is a hot and messy business; a better way is to use a wire mesh panel of approximately the same dimensions as the interior of the vessel, the wire mesh being covered with a sheet of hessian securely attached to it with strong string.

Risks of Too Much Liquor

When the loose cotton has been satisfactorily covered with hessian, the hanks are packed into the vessel by hand and are in turn covered with hessian sheeting. When this has been done, a certain volume of liquor is run into the vessel from the reserve tank and the boiling-down of loose cotton for weighting down the hanks is begun. If too much liquor is run into the vessel for a start, the load of hanks is liable to lift; some bundles may get displaced, and in all likelihood several liquor channels will form with a disastrous effect on the levelness and penetration of the dyeing. It is therefore wise to run only sufficient liquor into the vessel to effect the desired thorough wetting of the few armfuls of cotton thrown into the bath in the early stages of the boiling-down process. When a fair quantity of loose cotton has been boiled down on top of the hanks, they will be less liable to lift, and a little more liquor can be run into the bath. The addition of small quantities of liquor and the boiling-down of a few armfuls of loose cotton continue until all the loose stock has been entered; circulation can then proceed smoothly and continuously with no periodical interruptions in the flow of liquor from the side conduits. If circulation is erratic, the fault is likely to be a shortage of liquor in the bath, but sometimes a periodical interruption in the flow is brought about by an overloading of the vessel with stock.

Method for Aiding Levelness

One way of facilitating levelness when the yarn is being dyed a fairly pale shade is to wet the stock thoroughly before using the color. The usual method of doing this is to treat the hanks for several hours in a solution of soda ash, the work being carried out in a low-pressure kier. In the absence of a low-pressure kier—and many cotton yarn dye houses do not include one in the plant—the only way is to boil the yarn for some hours in an open-top beck, or else in a spare dyeing machine. An addition of a percentage of one of the proprietary wetting agents is a valuable help in gaining a thorough wetting in such cases.

In certain dyeworks the sulfur dye is prepared in a special vessel holding liquor sufficient to fill one or several dyeing machines to working height. The vessel is known as a dissolving tank, and it is usually fitted with a power-driven agitator, a direct steam heating pipe, and adequate hot and cold water supplies. The draw-off pipe has a large bore so that the various dyeing machines can be filled quickly. All couplings in the draw-off pipe line are of a kind that are easily taken apart, to make easy the removal of substances choking the pipe.

Common salt is frequently used for helping the exhausting of a sulfur dyebath when heavy shades are being processed; Glauber's salt is used instead when the shade is a fairly pale one and the sulfur dyestuff is not of an easy levelling type. That chosen is not ordinarily put into the dissolving tank with the dyestuff, etc., but is more usually strewn at suitable intervals during the coloring of the stock. Levelling and penetrating substances, however, such as pine oil and the various proprietary compounds, are often put into the dissolving tank with the dyestuff, etc.

Importance of Sufficient "Rock"

It is of some importance that sodium sulfide ("rock") in an amount sufficient to dissolve properly the charge of dyestuff should be put into the dissolving tank with the dyestuff when the bath is being prepared; a slight excess of this being better than an insufficiency. A pronounced shortage of rock frequently results in a dirty dyeing, because a considerable amount of loosely adhering particles of undissolved color become deposited on the goods during the coloring operation. The wise sulfur color dyer invariably examines every newly prepared bath before it is run out of the dissolving tank into the dyeing machine. The examination takes little time, for one merely views a sample of the liquor in a glass beaker or similar receptacle and notes the clear and bright or muddy, turbid appearance. If the liquor is muddy, a fine sludge of undissolved color particles will be deposited on filter paper when a little of the liquor is allowed to trickle on to it. A slight excess of sodium sulfide in the liquor helps in the attainment of satisfactory penetration of two-fold yarn of tightly spun stock, and also facilitates levelness. If, on the other hand, a grossly excessive quantity of sodium sulfide is present in the bath, exhaustion of the dyestuff will be retarded and the dyer may have to use a lot of common salt to produce a shade of an intensity similar to that obtainable with a much smaller expenditure of the salt exhaustant.

In a number of well-equipped cotton hank dyehouses where comparatively pale shades are regularly produced with sulfur colors, it is the practice to have on hand a stock of several hundred gallons of sodium sulfide solution of a certain strength. This solution is prepared in the cold and stored in a covered receptacle and placed in a cool position in the works. It is used for dissolving and diluting sulfur dyestuff which has to be added to the dyebath when salting of the shade being processed becomes necessary. A pipe line connected to the rock tank has draw-off taps at a convenient place alongside each dyeing machine to be serviced. When one of the workmen is given a quantity of sulfur dyestuff to be used for salting the shade on any particular batch he draws off a suitable quantity of the stock rock solution and proceeds to paste up the dyestuff, together with some soda ash, in it, the resulting thin paste being diluted with a further quantity of rock liquor and the whole then boiled up under a nearby open-end steam pipe. The color solution thus prepared is added to the dyeing machine as required.

Soda ash is an important component of the sulfur color dyebath; a suitable amount in the bath liquor counteracts any bad effect on the shade exerted by any lime salts present in the water used. Moreover, it helps to maintain a proper condition of alkalinity in the bath liquor, thereby limiting the amount of sulfuretted hydrogen gas formed during the boiling of the bath. (One of the unpleasant features in many sulfur color dyehouses is the stench of sulfuretted hydrogen gas which pervades the works and the neighborhood; the fumes soon blacken silver watches or watch chains worn by dyehouse workers, and a silver coin, if allowed to remain in one's pocket for a week or thereabouts, will be markedly discolored.) As much as 10 per cent of soda ash on the weight of the yarn being processed may at times be used for sulfur black and other dyeings of heavy shades. The use of 1 to 5 per cent is, however, adequate for medium and pale dyeings.

Causes of Bronzing

It is not possible to give hard-and-fast rules about the percentage of common salt or Glauber's salt to be used in any particular sulfur color dyeing since much depends upon the length of the bath employed; moreover, certain sulfur colors will not stand much of these salts in the bath without bronzing starting; others will take quite a heavy percentage before this occurs. In works where a standing sulfur dyebath is in frequent use, the liquor is usually tested every few days with a hydrometer for salt content, the test being carried out when the liquor is cold. A reading of 10 to 12° Tw. is considered correct for a sulfur black standing bath, while 6 to 8° Tw. is satisfactory for standing liquor for use in the production of dark blue, deep brown and other heavy shades with the exception of black. Where a bath liquor registers a figure in excess of these, salt additions to the liquor should be stopped until the hydrometer reading shows an appropriate reduction.

Another cause of bronzing in sulfur dyeings is the continued use of an overage liquor which ought properly to be run down the sewer. Such liquor contains many impurities left behind by the various batches of stock that have been processed in it, and, in addition, there are the impurities introduced by the sulfur dyestuff and the rock, etc. In many dyehouses a standing bath liquor is considered over age when it has been in almost daily use for three months.

A further cause of bronzing is the too-frequent exposure of the stock to the atmosphere at a critical stage in the coloring process—for instance, after a substantial addition of common salt has been made to the bath in order to bring about exhaustion of the dyestuff after the initial period of processing at the boil for levelness. This kind of bronzing is most frequently encountered in open-back work, when the hanks, being manipulated on straight rods, are never completely submerged in the liquor. One also comes across it occasionally with yarn that has been colored in an obsolescent dyeing machine, in which the yarn is arranged on rods that are periodically lifted completely out of the liquor during the dyeing.

The use of a highly concentrated dyebath for the production of a heavy shade may also bring about serious bronzing of the yarn; some sulfur dyestuffs, notably those of the "indigo" type, are more liable to bronzing for this reason than are others. Apparently the goods become overloaded with color during the first few minutes of immersion, and the defect is seldom discovered before part, or perhaps the whole, of the calculated common salt addition has been made. The effect of the salt addition is to increase the bronzing;

in many cases the batch has to be given a boil-off in sodium sulfide solution to remove it.

A severe shortage of rock in the bath has been known to cause bronzing, mostly with the more insoluble types of sulfur dyes, when a fine deposit of undissolved dyestuff is precipitated on to the stock giving it a bronze shade. The remedy is simple: all that is necessary is to boil-off the goods in rock solution of a strength capable of dissolving the bronzy film of color sludge encrusting the yarn threads.

Difficulties of Matching

In a certain case of persistent bronzing with sulfur black dyeings on cotton hanks, the trouble was traced to the practice of directing a stream of very hot water on to the hanks as they were being rapidly whirled around in the container of a hydro-extractor. When the practice was discontinued, there was no more bronzing.

Accurate matching of shades on yarn dyed with sulfur colors requires great experience and constant practice, because of the difficulty in estimating the alteration of the shade which exposure of the yarn to the atmosphere will bring about. Most sulfur color dyeings show a tendency to change in timber during a period which may vary from a few hours to several weeks. Sulfur black, sulfur blue, and sulfur green, dyeings are cases in point; the difference in shade is one of timber rather than of intensity.

Reserve Tanks

The standing bath liquor reserve tanks are an important part of the plant in the yarn dyehouse where sulfur colors are regularly used. In some works the reserve tanks are placed high up against one wall of the dye-house, possibly directly over the particular dyeing machine they serve.

A rotary pump or an injector of the boiler feed-water type is used for transferring liquor from a dyeing machine to an overhead reserve tank; an injector is not very suitable for raising liquor at or near the boiling point as the impelling effect is poor and erratic. In some dyehouses the storage tanks are placed in a basement adjoining the dyehouse; the partly spent bath can then be run into the storage tank by gravity, but the liquor has to be pumped back when wanted for use on another batch. It is wise to clean out storage tanks three or four times a year; the time expended will prove to be well spent, since cleaner dyeings will result.

Dyers who have to put up with an inefficient injector for extracting a used liquor from a batch of yarn that has just been processed with sulfur colors are forced to run a good deal of cold water into the vessel of the dyeing machine in order to cool down the liquor to a point at which the injector will cope satisfactorily with the work. This unavoidable dilution of the standing bath entails a correspondingly greater addition of dyestuff, etc., when the bath has to be replenished for the next batch, and only a short-sighted employer would begrudge the cost of a more efficient device for pumping the liquor.

There is one pitfall at least that will be encountered by the unwary sulfur color dyer who has to run a good deal of cold water into a standing bath liquor in order to cool it before it can be dealt with by a pump of the injector type; this is the risk of unlevelness due to partial flushing from the fiber of imperfectly oxidized sulfur color. If the yarn is being processed on rods in an open-top beck, a safe method is to wring each rodful of stock before allowing the goods to come into contact with cold water. The yarn should be well shaken after being wrung, the shaking giving the oxygen in the air a better opportunity to reach fibers containing incompletely oxidized color.

• PATENT DIGEST •

Paul Wengraf

PIGMENT DYEING OR PRINTING—CELLULOSE ETHER AS A CARRIER D, 2, 07

British Patent 574,814 (Sylvania Industrial Corporation—January 22, 1946)

A process for pigmenting fibrous material in dyeing or printing operations is distinguished from well known methods by the fact that the material to be pigmented *remains water absorbent.* This effect is attained by forming the pigment within the fiber instead of fixing it on the surface. An example will better explain this invention. A cotton fabric is padded with an alkali soluble, water insoluble cellulose ether, semi-dried at 45°C. and then passed through a solution of inorganic salts of Fe, Cr, and Cu. This bath causes a coagulation of the cellulose ether, while the salts are transformed by a further precipitation action into the corresponding hydroxides. The method has the principal purpose to manufacture khaki fabrics, fast to light and mildew-proof for military use.

Former Reference: Journal Society of Dyers and Colourists, December, 1945, p. 310 (Speakman et al.), giving full information about mineral khaki dyeing with pigments and fungicidal and germicidal properties of these textiles.

LUBRICATING WOOL—CHLORINATED PARAFFINS A, 2, 02

British Patent 574,828 (Imp. Chem. Ind.-Dodd—January 22, 1946)

The present method is said to have many advantages in the wool combing process for lubricating fibers. The compositions described in this patent are said to wet readily the wool, to lubricate it satisfactorily and to be removable in the subsequent scouring operations. The method is characterized by the use of a mixture, consisting substantially of a chlorinated paraffin wax and a minor portion of a higher fatty acid or alcohol (for instance 5-10% oleic acid, 2.5-10% ethyl alcohol etc.). It has unexpectedly been discovered that the mixture was removed to 73-80% of the initial content in a soap scouring operation (figures for olive oil: 87-88%, for mineral oil: 25-33%). No deterioration of a top, exposed to Ultra-Violet Light for 400 hours in a Fugitometer could be stated.

Earlier Work, done in this field: U. S. Pat. 2,387,510 (duPont): Petroleum hydrocarbons mixed with mineral oil sulfonates are used for lubricating wool. Higher alcohols for lubricating textiles are described in U. S. Pat. 2,344,671 (Am. Hyalsol). Higher fatty alcohols, mixed with paraffins and a small quantity of higher alkylsulfates are mentioned as lubricating compositions in Brit. Pat. 522,151 (Bataaf'sche Petrol, Manuf.).

FLAMEPROOFING AND WATERPROOFING COATINGS G, 2, 03

British Patent 575,028 (J. Knaggs—January 31, 1946)

A flameproof and at the same time sea-water-proof composition is obtained by mixing (1) for the flameproofing component tricresylphosphate or triphenylphosphate with or without adding some amylborate and

(2) An organic solution containing waterproofing substances, particularly metallic soaps of higher fatty acids with or without adding some beeswax or fossil bitumen. A typical example is a white-spirit-solution of 15-20% tricresylphosphate, 5-10% amylborate, 0.5-1% lead linoleate and 0.5-1% asphalt as a fossil bitumen.

FULLING OF MIXED FABRICS FROM WOOL, BLENDED WITH CELLULOSE ACETATE STAPLE FIBERS — A, 3

British Patent 575,072 (Courtaulds Lim.-Cluley-Allen—February 1, 1946)

Fabrics consisting of wool and acetate rayon staple fibers are prepared for the subsequent fulling process by treating the material—preferably knitted goods—with an aqueous solution of a substance which has the property to plasticize the acetate component. Another form of the invention consists of previously incorporating the plasticizer into the acetate cellulose spinning mass. According to an example, the fabric consisting of equal parts of cellulose acetate and wool is scoured with soap and impregnated at 40°C. with an aqueous emulsion of 0.5% dimethylphtalate, emulsified with triethanolamine oleate. In the subsequent milling process a superior shrinking effect in width and length (compared with a non-treated material) has been observed.

METALLIZATION OF NON-CONDUCTIVE MATERIALS — C, 1

British Patent 575,148 (Callender-Suchy-Developments-Suchy—February 5, 1946)

The application of metallization on non-conductive materials is a problem not satisfactorily solved up-to-now. The present invention enumerates as non-conductive materials synthetic resins, glass, wood or the like. Textile materials are not especially mentioned in the specification but an application to textile fibers might also be interesting. The process consists of subjecting the non-conductive material to a mechanical or chemical treatment whereby it becomes porous (or more porous than before) for instance by brushing, abrasing with pumice stone, raising or the like. A cleaning process follows whereupon the material is immersed in a metallic salt solution (stannous chloride, silver nitrate). After reducing this layer and drying it the material can be electroplated according to known methods.

Generally metallized fabrics are made by applying a varnish-like composition mixed with metal-bronze powder. The fixation consists of drying the goods for some time in the open air. A reference could be found in Austrian Patent 146,812 (Galvanocor) which proposes to prepare shining effects on non-conductive materials by using an electroplating bath consisting of a mixture of acid tin-salts and colloid substances (gelatine and acid reacting phenolic resin solutions). Actually up to date no method for preparing metal sheets on textile fabrics by electroplating means has been introduced in the practice. Another method of metallizing various non-conductive substances in spraying melted metal particles on a cooled surface is known as the Schoop-process (Ger. Pat. 258,505). An improvement consisting in cooling textiles to be metallized by a spray drying process by leading the fabrics over rollers, cooled by liquid air is patented in Brit. Pat. 432,466 (Sommer and Leyst—Kuechenmeister).

SCREEN PRINTING NECKTIES — D, 4

U. S. Patent 2,400,700 (McCurrach—May 21, 1946)

The patent protects a special method for screen printing neckties. In the usual art of screen printing successive sections of a length of cloth, it often occurs that the printed background of one section overlaps the next one at the edge despite the greatest care, in placing the screens correctly at the border lines. Blemishes occur which are avoided in the following practical way: the screen may be shaped

according to the outlines of the sections in Fig. 1 (11). In this way the blemishes, possibly formed, are at (16). Four neckties are produced from each section (11), consisting of four narrow portions (12, 13) for the rear and four wide portions (14, 15) for the frontside of the neckties. The portions (16) bearing the spotted printed parts on the border lines are cut out. (Compare here Fig. 3.)

SIZING WITH POLYMERIZED PRODUCTS — A, 4, 01

British Patent 572,844 (British Celanese Ltd.—October 25, 1945)

A sizing process, described in this patent, combines a methacrylic acid polymer, polymerized ethlene oxide and a wetting agent. The methacrylic polymer can be a polymer of methacrylic acid with acrylic acid or the like. The polymerized ethylene oxide is a water-soluble solid of the "Carbowax-type" having a molecular weight of 1400-4000. Finally the wetting agent can be of any type. In an example Tergitol 4T (an amine salt of a higher secondary alkyl sulfate) is particularly recommended. About 2-3% solid remains in the yarns to be sized after drying.

Reference can be made to U. S. Patent 2,368,948 (Rohm & Haas), proposing acryl polymers plus starch as sizing agents. The present Brit. Patent corresponds apparently to the U. S. P. 2,385,110 (Celanese Corp. of Am.—Seymour-Miller).

COATINGS WITH CELLULOSE ETHER PLUS RESINS — G, 2, 01

British Patent 572,906 (duPont—October 29, 1945)

Cellulose ethers of the organic-solvent-type (ethyl cellulose) or cellulose acetate become better adapted for coating purposes by mixing them with a plasticizer and an ether of the condensate of urea-formaldehyde (dimethyl ether of dimethylolurea, obtained by etherifying urea-aldehyde-condensates) in an homogenizer. The mass is transferred to a calender and applied to a fabric. In curing the material at temperatures over 100°C. the coating becomes insoluble and it is substantially non thermoplastic (that is: permanent without softening when exposed to higher temperatures).

Reference: U. S. P. 2,270,180 (Dow Chem. Co.): Cellulose ethers, which are used for finishing purposes are insolubilized by an aftertreatment with urea- formaldehyde (not with ethers of these condensates).

FELTS—WATER RESISTANT — G, 2, 02

British Patent 575,264 (Dunlop Rubber Co.-Warren—February, 1946)

Felts are treated by impregnating them with an aqueous dispersion of synthetic resins in combination with a plasticizer for the resin. Excess of the impregnating bath is removed by squeezing the material between rollers of a padding mangle. Thereupon the felt is dried and if necessary cured. Partly polymerized polyvinyl resins are preferred according to the example and dibutylphosphate or dibutylphtalate are added as plasticizers. The shrinkage ultimately reaches the proportion of 5 to 10%. Leather-like very compact products, having a high tensile strength and a good resistance to water penetration are obtained.

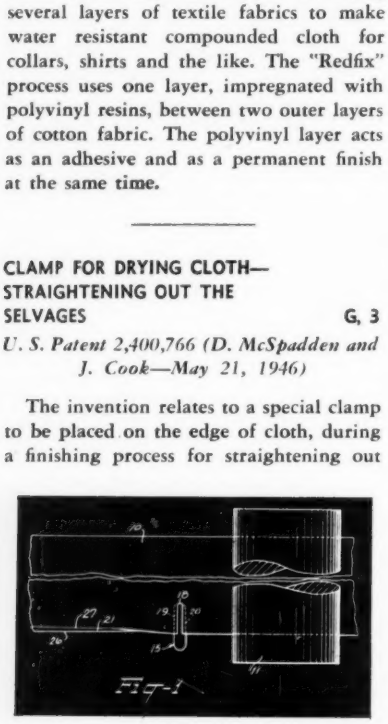
References: Finishes using polyvinyl

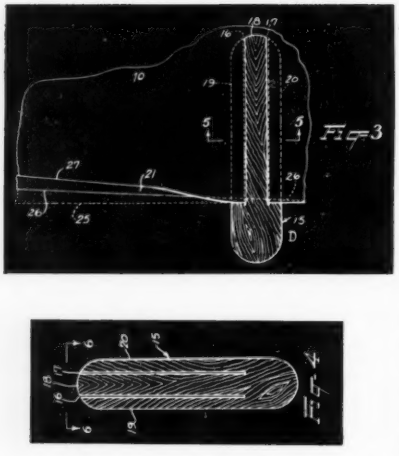
resins are quite generally known but not in relation to felts. Examples for polyvinyl finishes are for instance French Patent 767,147 (I. G. Farbenind.) . . . a mixture of polyvinylalcohols and aldehydes; British Patent 416,885 (I. G.) . . . emulsions of polymerized vinyl compounds, dissolved in caustic and reprecipitated by adding acids; British Patent 464,860 (I. G.) . . . mixed polymers from maleic acid anhydride and vinylesters of higher fatty acids; French Patent 799,839 (Redmann), known as the Redfix process, similar to the "Trubenising" method for combining several layers of textile fabrics to make water resistant compounded cloth for collars, shirts and the like. The "Redfix" process uses one layer, impregnated with polyvinyl resins, between two outer layers of cotton fabric. The polyvinyl layer acts as an adhesive and as a permanent finish at the same time.

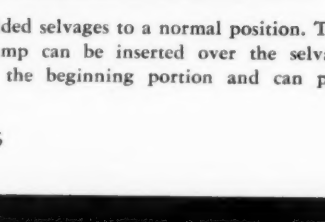
CLAMP FOR DRYING CLOTH—STRAIGHTENING OUT THE SELVAGES — G, 3

U. S. Patent 2,400,766 (D. McSpadden and J. Cook—May 21, 1946)

The invention relates to a special clamp to be placed on the edge of cloth, during a finishing process for straightening out







folded selvages to a normal position. This clamp can be inserted over the selvage at the beginning portion and can pass because of its special construction between rollers, bars etc. A cloth travelling from one machine to another or from part of the machine to another part passing for instance through rollers (11, 12) can be inserted at (10). An in-turned edge (27) is shown at the left side of the cloth. A thin clip (15) is made from a resilient material for instance from plastic. Tongues are formed by cutting of the slots (16 and 17). The clip forms a prong the position of which is illustrated in Fig. 3. The rollers in the machine cannot be damaged by the pressure of the thin clamp member.

TEXTILES—GAS RESISTANT — G, 2, 02

British Patent 575,379 (Kingan-Philipps-Wilsdon—February 15, 1946)

Textiles have to be resistant to injurious gases, vapors or liquids when used for uniform cloth and the like. They can be prepared by fixing an appropriate absorbent substance (charcoal, Bentonite, Alumina) on a textile material by using a rubber latex dispersion as a fixing agent or by securing this absorbent compound by another layer of cloth, covering and fixing this inner layer. The inventor is aware that it has already been proposed to render fabrics gasproof by silica gel and to activate the gel in situ.

References: The use of silica gel as a finishing assistant, mentioned in this specification can be found for instance in British Patent 462,230 (Rodwell). British Patent 397,270 (Dunlop) describes a dispersion of latex, mixed with Aluminum silicate . . . here latex is precipitated by aluminum silicate and again dispersed with starch in an aqueous medium. Sizes and printing thickeners to which Bentonite and similar silicates are added obtain quite generally an increased degree of viscosity (see French Patent 812,944, Marion Beraud etc.).

LUBRICATING RAYON—MIXED ETHER-ESTERS — A, 7, 01

British Patent 575,531 (American Viscose Corp.-Brown—February 21, 1946)

Lubricating agents for rayon or other artificial yarns should be easily applied and easily removed after knitting, weaving, etc. They should impart pliability, softness and lubricity to the filaments. The present invention suggests to use products, obtained by first partly etherifying a polyhydric alcohol such as glycerol, with enthylene oxide or propylene oxide and to esterify these partial ethers with a higher fatty acid such as stearic or palmitic acid. The final products are unctuous, low melting solids. They can be applied in form of an organic solution or an aqueous emulsion. They reduce the harshness of filaments in the subsequent knitting, twistor weaving operation.

Reference regarding earlier work, done on this subject: French Patent 791,696 (Aceta) uses for sizing and pre-treating purposes of acetate rayon reaction products of ethylene oxide with proteins, mixed with linseed oil. U. S. Patent 2,07,-555 (Texas Comp.) recommends mixtures of petroleum hydrocarbons with small quantities of mixed ether-esters; an example is butyl-acetyl ricinoleate. According to Austrian Patent 139,102 (I. G. Farben-Ind. A. G.) solutions of oils in higher alkyl sulfates have to be used for lubricating particularly mixed fabrics. British Patent 511,132 suggests to lubricate yarns with polyesters from glycol, glycerol or sugars with high fatty acids, mixed with polyamines.

FLAMEPROOFING TEXTILES—UREA AND AMMONIUM SALT — G, 2, 03

British Patent 575,903 (British Celanese—March 11, 1946)

The invention relates to a flameproofing treatment of textiles, particularly of cellulose acetate. Textile materials are impregnated with a solution of urea and an ammonium salt in a solvent (water or alcohol). Ammonium bromide,-chloride,-borate or diammonium phosphate are especially recommended as ammonium salts. Moreover a penetrant such as a thiocyanate may be added. Diammonium methylphosphate gives still a better and softer hand. Samples placed in the luminous flame of a Bunsen-burner do not ignite but only melt and char without dripping.

Some references on this subject are: U. S. Patent 2,262,634 (Monsanto Chem. Co.): alkylammoniumphosphates, for instance diethylammoniumphosphate, have proved to be fireproofing agents. U. S. Patent 2,212,152 (du Pont): Urea is added to the known fireproofing products manufactured by the Company on a base of sulfamic acid salts. U. S. Patent 2,005,619 (du Pont): mixed alkylphosphates are flameproofing substances.

Silver Jubilee Issue

commemorating the 25th Anniversaries of the AATCC and the SOCMA, appears December 2nd.

ABSTRACTS FROM CONTEMPORARY JOURNALS

Wet Chlorination Treatments to Reduce Wool Felting

Textile Mercury and Argus, page 515, Vol. CXIV, No. 2976, April 5, 1946 and page 551, Vol. CXIV, No. 2977, April 12, 1946.

At least as far back as 1895 it was found that woolen materials could be made non-shrinkable by treatment with aqueous liquors containing active chlorine. Techniques have been considerably improved since that time with the idea of avoiding detrimental action on the wool. It was found impossible to make wool completely non-felting without damage so a compromise treatment of using less active chlorine was adopted. With this treatment the garments, by the time they had shrunk too much, would be about worn out. Shortly before the war a number of new processes were devised which would give greater perfection. However the wet chlorination treatments were also considerably improved so that they were extensively used during the war. Two improved processes are described.

The first of these two processes, based on B.P. 561, 475, makes use of active chlorine solutions derived from sodium chlorite (not sodium hypochlorite). The wool is first impregnated with a solution of sodium chlorite and is then passed into a hot solution of hydrochloric or sulfuric acid. It is in the acid bath that the wool is made non-felting. To remove any yellowness the wool is lightly bleached with hydrogen peroxide or sodium bisulfite or sodium hydrosulfite. This second bath also destroys any residual chlorite in the wool.

In the second process as described in B.P. 569, 730, sodium hypochlorite or an equivalent substance capable of liberating active chlorine is applied to wool after, or simultaneously with, a permanganate.

Typical procedures involving the use of these two processes are given.

Dyeing of Cellulosic Fibers

E. Brecher, The Textile Journal of Australia, page 126, Vol. XXI, No. 2, April 20, 1946.

The fundamental molecular structure and the mechanism of dyeing are reviewed. Various tests give information which makes it possible to classify the direct dyes according to their dyeing properties: (1) dyes which have a high rate of exhaustion without salt and level quickly; (2) dyes which exhaust slowly and slightly in the absence of salt and which possess low levelling properties; (3) dyes which exhaust rapidly and show a high degree of exhaustion in absence of salt but which also have poor levelling properties. The appropriate method of control for these dyestuffs is determined by the influence of temperature and salt on exhaustion rate and levelling. The duration of dyeing is influenced by the type of yarn. In making use of this classification in the dyeing of compound shades there may be considerable variation in the dye-behavior of dyes, even in the same group. Therefore the dye mixture should be tested in the laboratory regarding its suitability for a particular job. A laboratory method of test is given.

In addition to direct dyes, vat dyes and solubilized vat dyes are also considered. Knowledge of the affinity and salt-sensitivity of the solubilized vat dyes is essential to obtain an even dyeing. The limited number of dyes of this type makes it difficult to select compatible dyes for compound shades. In the past they have been used mainly for pale shades. The mechanism of the absorption of vat dyes by cellulose is similar to that for direct dyes. Vat dyes may be classified in accordance with exhaustion rate and diffusion speed. Strong alkali and weak alkali dyes cannot be satisfactorily mixed. More importance should be placed on diffusion speed than exhaustion rate. Temperature being the medium of dye control, the influence of temperature on exhaustion rate and levelling decides the practical dye method.

Fibrillar Structure of Rayon Fibers

L. M. Welch, W. E. Roseveare and H. Mark, Industrial and Engineering Chemistry, Industrial Edition, page 580, Vol. 38, No. 6, June 10, 1946.

A method has been developed for breaking down rayon filaments into fibrils which may be seen with the optical microscope. The method is as follows:

"The specimen is mounted on a glass side and covered with a thin cover glass. A small amount of nitric acid (70 per cent) is placed at the edge of the cover glass in contact with the specimen, which swells as the nitric acid penetrates the structure. The application of a slight pressure on the cover glass causes the swollen filament or fiber to disintegrate into fibrils. . . ."

A number of photomicrographs and x-ray diffraction patterns illustrate the differences in the structure of rayon filaments. The manner in which rayon filaments break down depends principally upon the crystalline orientation. The authors conclude that "Rayons having high crystallite orientation separate into fibrils, whereas unoriented rayons show no evidence of a fibrillar structure. The fibrils from viscose and saponified cellulose acetate yarns appear similar to the fibrils from cotton and ramie except for the spiral arrangement in the latter. In contrast to natural fibers, the over-all orientation of these synthetic fibers, as shown by x-rays, is determined by the crystallite orientation within the fibrils."

German Textile Technology Can Advance U. S. Industry

Textile World, page 101, Vol. 96, No. 5, May, 1946.

This article lists the personnel who have investigated German textile technology, and the reports which have been made available. It is pointed out that the list is incomplete and that there may be some duplications, some reports may be no longer available and that some reports may have been incorporated in longer ones. In addition there are excerpts from eleven reports including some on finishing, dyeing, sizing methods, printing, and screen printing.

A New Method of Approach to the Bleaching and Subsequent Dyeing of Jute

C. Garrett, Journal of the Society of Dyers and Colourists, page 234, Vol. 62, No. 8, August, 1946.

Benzine extraction as a prepare for the bleaching and subsequent dyeing of jute fabrics is suggested as a means of eliminating the characteristic odor of jute. After extraction, sodium hypochlorite rendered more alkaline with soda ash and used at 100-120° F. gives a good bleaching result; not a white comparable to cotton, but a good clean cream color which is well suited as a prepare for dyeing. The jute can be given this treatment without previous scouring, but in order to obtain a really good color, more than one treatment, with intermediate washing, is necessary. Two or three week sodium hypochlorite-soda ash treatments are better than one strong one. To insure level bleaching throughout the thickness of the fabric it is recommended to wash and dry

between bleaching treatments. It is preferable to bleach jute piece goods in the open width otherwise rope marks are difficult to avoid and still more difficult to clear when they occur. No matter how jute is bleached, it possesses a very bad inherent fault that on exposure to light it "darkens back."

The author's experience of the dyeing of jute and jute-cotton unions is summarized as follows: For the best all-round fastness, the Indigosol dyes should be used, either alone or in conjunction with selected direct dyes; the azoic dyes offer a very good field for development when the range is extended, and by careful selection of naphthols and fast color salts complete satisfaction should be obtainable; a limited number of direct dyes are suitable for jute-cotton unions, but more are suitable for all-jute fabrics.

The preliminary benzine extraction of jute and jute-cotton union fabrics before further treatment is said to open up a wide field for the extension of uses of jute, e.g., jute carpets with no odor and possessing excellent fastness to light and washing; jute and jute-cotton union fabrics dyed to give all-round fastness properties in anti-crease finishes; jute and jute-cotton union fabrics for use in plastic laminations.

Detergency—A Simple Method of Estimation

E. Kornreich, The Textile Manufacturer, page 271, Vol. 72, No. 857, May, 1946.

The method is based on the fact that the degumming of raw silk can be followed accurately by means of Shirlastain A, a mixture of dyestuffs used for the identification of fibers. The fibroin and the sericin of silk give colorations so widely apart that through a gradual removal of sericin a whole range of shades may be obtained. If a standard range is produced with one detergent any coloration obtained with another can be related to the corresponding concentration of the first product giving the same shade. In the present instance soap flakes of 86 per cent fatty acid content were used for the production of the standard range.

Raw silk (20-22 denier Japanese silk) is cut into small pieces of approximately 5 mm. length and the cut material mixed thoroughly to obtain uniformity. Half gram samples are weighed into 250 cc. conical flasks. One hundred cc. of the solution of the detergent in distilled water are poured into the flask. After insuring that the fibers are uniformly distributed throughout the liquor the flask is transferred into a bath of boiling water with a reflux and stirrer mounted. There it is kept for one hour (or less if found convenient) with constant stirring. The content is filtered, immediately washed under suction with previously prepared 500 cc. of distilled water at 80° C. followed by 500 cc. of cold distilled water. Suction is then stopped and 20 cc. of Shirlastain A are poured over the silk and allowed to percolate through the layer for not more than one minute. Suction is immediately applied again and one liter of cold water is sucked through as rapidly as possible to remove any surplus stain. The disc of silk is then ready for drying and examination.

Colour and Constitution. Part VIII — Some Colour Problems From the Viewpoint of the Resonance Theory

H. H. Hodgson, Journal of the Society of Dyers and Colourists, page 237, Vol. 62, No. 8, August, 1946.

A summary of this article follows: H. E. Armstrong's quinonoid and triple color-center hypotheses are discussed from the standpoint of modern resonance theory, on which the quinonoid system is only one type of oscillating system which can exhibit resonance. The other theory fails completely to explain the colors of the aliphatic nitroso-compounds and of the absence of color in *pp'*-quinonediimine, as well as the enhanced color of quinhydrone. The earlier attempts, however, laid the foundation for the later quasi-quantitative theory. That Armstrong should take iodoform as a reference substance in his wider generalization indicated beyond doubt the necessity for a theory such as that provided by the concept of resonance.

Gelatine in Rayon Sizing and Dyeing

Silk Journal and Rayon World, page 41, Vol. XXIII, No. 267, August, 1946.

This article deals mainly with the use and removal of gelatine sized prior to dyeing.

Gelatine forms transparent adhesive films and is soluble in hot water, and with suitable modifications has been found to give satisfactory results both in sizing and desizing of rayons. To obtain suppleness in a gelatine size sulfonated oils are added to the sizing mixture. Water above 140° F. should not be used in dissolving gelatine and excessive agitation should be avoided. High drying temperatures should also be avoided. Gelatine sizes tend to give coarser crepe effects than do oil sizes.

The usual recommendation to remove gelatine sizes is to steep the goods, overnight if possible, in warm or hot water, then in the morning give a mild scour in hot soap solution. Gelatine mixed with other materials in a size may be removed as follows: *gelatine and soluble oils*—same as for gelatine alone; *gelatine and starch*—use preliminary desizing with malt extract before the hot water and soap treatment; *gelatine and linseed oil*—proteolytic enzymes are recommended, also treatment with hydrogen peroxide or perborate of soda; another recommendation is 2 lbs. soda ash and 1 gallon turpentine per 100 gallons scouring liquor; in some case an overnight treatment is necessary; *gelatine with fat or casein*—mild alkaline soaping treatment.

A Theoretical Discussion of Further Substitution in Disubstituted Naphthalenes. Part II—Heteronuclear Mononitronaphthylamines

H. H. Hodgson and D. E. Hathway, Journal of the Society of Dyers and Colourists, page 241, Vol. 62, No. 8, August, 1946.

Summary: Substitution by diazo coupling, halogenation, nitration and mercuration of 5-, 6-, and 8-nitro-1- and -2-naphthylamines is discussed from the standpoint of the Vesely and Jakes quinonoid hypothesis of substitution modified by modern electronic and resonance theory. All the apparent anomalies are adequately explained by the modified treatment.

The Cellulose-Dyestuff Complex. Part II—The Intensity of Light Reflected From Dyed Fibers

J. M. Preston and P. C. Tsien, Journal of the Society of Dyers and Colourists, page 242, Vol. 62, No. 8, August, 1946.

A model is proposed from which to calculate the light reflected from dyed fibers. An explicit relation between reflected light intensities and dye concentrations is derived from the model and gives a reasonable fit to experimental measurements on dyed fibers.

Accident Prevention in the Dyeing and Finishing Industry

J. B. H. Morton, Journal of the Society of Dyers and Colourists, page 229, Vol. 62, No. 8, August, 1946.

Advice on accident prevention may be summarized as follows: (1) appreciate the nature of the problem; (2) study the accidents in your plant and apply the remedies suggested by that study; (3) inspect your plant for hazards and eliminate all that are possible; (4) promote the comfort and well-being of the workers; (5) tackle the personal factor in accidents.

Proceedings of the
American Association of Textile Chemists and Colorists

OCTOBER 7, 1946

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STUDENT CHAPTERS

Lowell Textile Institute
North Carolina State College
Philadelphia Textile Institute
New Bedford Textile School

Members should notify the Secretary immediately of all address changes

Technical Program
Silver Jubilee Convention

Boston, Mass., December 12-14, 1946

Thursday, December 12th

12:30 p.m.-5:30 p.m. — Meeting of the Research Sub-committees.

Friday, December 13th

Fundamental Research Session

9:30 a.m.-10:10 a.m.—"New Developments in the Chemical Modification of Wool." Dr. Milton Harris, Director, Milton Harris Associates, Washington, D. C.

10:20 a.m.-11:00 a.m.—"Some Aspects of the Biological Degradation of Cotton Textiles." Dr. Ralph G. H. Siu, Director, Biological Laboratories, Philadelphia Quartermaster Depot, Philadelphia, Pa.

11:10 a.m.-11:50 a.m.—"Some Principles of the Structure of Synthetic Fibers." Dr. Herman Mark, Director, Institute of Polymer Research at the Polytechnic Institute of Brooklyn, Brooklyn, N. Y.

Applied Research Session

2:30 p.m.-3:10 p.m.—"Theory and Practice in Wool Dyeing." Mr. F. L. Goodall, Research Staff, Geigy Color Company, Ltd., Bradford, England.

3:20 p.m.-4:00 p.m.—"Factors Affecting the Use of Cotton in Plastic Laminates." Dr. Simon Williams, Associate Director, Fabric Research Laboratories, Inc., Boston, Mass.

4:10 p.m.-4:50 p.m.—"Fundamental Principles Applied to the Elimination of Fire Hazards of Fabrics." Dr. Sidney Coppick, Research Laboratories, American Viscose Corporation, Marcus Hook, Pa.

8:00 p.m.-10:00 p.m.—INTERSECTIONAL CONTEST.

Saturday, December 14th

9:30 a.m.-12:00 a.m.—Research Committee Meeting.

2:00 p.m.-4:30 p.m.—Inspection Trip to the Research Laboratories at the Massachusetts Institute of Technology, Cambridge, Mass.

EMPLOYMENT REGISTER

This column is open for four insertions per year, per member, without charge. Blanks can be obtained from, and filed with, the Secretary of the Association, Lowell Textile Institute, Lowell, Mass. It is understood that these will be open to inspection by prospective employers, who can obtain further information through the code numbers from the Secretary.

46-5

Education: Lowell Textile School, Night, Chemistry, 1942.

Experience: Hosiery dyeing and finishing.

Age 29; married; references.

46-7

Education: Graduate, Bradford Durfee Textile School, 1933.

Experience: Five years as Textile Engineer, developing Non-woven fabrics.

Age 31; married; 3 dependents; references.

46-8

Education: Graduate, Lowell Textile Institute, B.T.C., 1938.

Experience: Industrial research on resin finishes for cotton: Research, as 1st Lieut., C.W.S., on flame proofing cotton.

Age 31; married; references.

46-9

Education: Graduate, Philadelphia Textile Inst., Chem. & Dye.

Experience: Inspector, Quartermaster Corps. Staff Sgt., U.S.A.A.F., Sta. Chief, Meteorology.

Age 24; married; references.

46-10

Education: B. S., Pratt Inst.

Experience: Leather finishing. U. S. Army Medical Corps, Pharmacist, C. W. S. Instructor. Lab. application work on textile chemical specialties. Development of colors in laboratory and pilot plant. Interested in tech. sales service.

Age 31; single.

46-11

Education: PhD. Chem. Engg., Geneva, Switzerland.

Experience: Chief Chemist of Textile Mills, silk and cotton.

Age 57; single; references.

46-12

Education: Graduate New Bedford Textile School, 1945.

Experience: Laboratory technician, chemical, and physical testing.

Woman, age 20, single: references. Employment near Atlanta, Ga., preferred.

46-14

Education: B.S., Brooklyn College, 1934. courses in New York Textile High School, Brooklyn Polytechnic Inst., Columbia University.

Experience: Textile Technologist and Chief Chemist, analytical and testing.

Age 34; married; references.

46-15

Education: High school.

Experience: Leather and fur dyeing, 28 years.

Age 52; married.

46-16

Education: High school; Lowell Textile Evening School; N. H. State Univ., extension course.

Experience: 21 years dyeing cotton and mixtures, and hosiery.

Age 46; married; references. North preferred.

46-17

Education: Temple University.

Experience: Dyer, considerable variety of fibers and materials, 18 years.

Age 39; married; references. Will work anywhere in U. S.

46-18

Education: graduate Lowell Textile Institute, high standing, 1946.

Experience: two summers in textile plant laboratories.

Age 25; veteran; unmarried.

46-19

Education: R. I. School of Design, night course in chemistry & dyeing.

Experience: Ten years dyeing cotton goods.

Age 29; married; northeast U. S. preferred.

Membership Applications

SENIOR

Manuel Guimaraes—Finisher, Slater Dye Works, Inc., Pawtucket, R. I. Sponsors: T. H. Bryant, B. R. Morgan.

Knut Halvorsen—Vice President and Gen. Manager, A/S Oslo Baand & Lidsefabrik, Goteborgsgt, Sweden. Sponsors: C. Conradi, C. A. Sylvester.

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Ernest W. Hill—Part Owner & Dyer, Eureka Dyeing & Bleaching Co., Pawtucket, R. I. Sponsors: T. F. Daley, E. J. Allard.

James M. Johnson, Jr.—Asst. Manager Dyeing & Finishing, Collins and Aikman Corp., Roxboro, N. C. Sponsors: G. R. Currier, W. C. Parker.

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Max Keller—Manager & Chemist, Farberer A.-G., Switzerland. Sponsors: E. Weber, R. E. Weber.

James A. Knipe—Executive, Walter E. Knipe & Sons, Philadelphia, Pa. Sponsors: J. E. Conway, P. J. Luck.

Stanley Krawiec—Dyer, Botany Worsted Mills, Passaic, N. J. Sponsors: S. Tremmel, Jr., R. Eckert.

Helge L. Krogius—Brooklyn, N. Y. Sponsors: R. H. Skinner, L. W. Hansen.

Edward T. Lessig—Manager of Tire Textiles Dept., B. F. Goodrich Co., Akron, Ohio. Sponsors: H. C. Froehling, J. B. Quig.

Oliver W. Love—Supt. Dyeing & Finishing, Lovknit Mfg. Co., Greenville, Texas. Sponsors: T. S. Wilheit, A. R. Jenny.

William F. Luther—Research Chemist, Industrial Research Instit., Univ. of Chattanooga, Chattanooga, Tenn. Sponsors: C. J. Horne, R. B. Seymour.

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Ralph E. Nelson—Technical Sales, Monsanto Chemical Co., Chicago, Ill. Sponsors: A. J. Feit, J. C. Moertel.

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Harry Price—Chemical Engineer, Patent Attorney, Dean, Fairbank & Hirsch, New York, N. Y. Sponsors: C. L. Schuttig, A. A. Cook.

Charles Pruiksma—Asst. Manager, Manhattan Print Works, Passaic, N. J. Sponsors: J. S. Lange, H. L. Steen.

Joseph A. Pufahl—Manager, E. S. Dye Works, Inc., New York, N. Y. Sponsors: F. M. Bonnett, J. W. Swan.

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Franklin R. Schaeffer—Dyer, Electric City Dyeing Co., Scranton, Pa. Sponsors: F. L. Nuttall, A. E. Koch.

William H. Schoellhorn—Technical Dept. Head, American Aniline Products, Inc. Sponsors: R. J. Schadwald, A. H. Seitz.

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Herman S. Sherburne—Dyer, Lawrence Mfg. Co., Lowell, Mass. Sponsors: H. F. Kane, J. A. Bryant, Jr.

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Clifford R. Smith—Sales Technician, Onyx Oil & Chemical Co., Jersey City, N. J. Sponsors: H. L. Dozier, T. T. Wilheit.

James O. Smith—Technical Sales, Dillons Chemical Co., Ltd., Toronto, Ontario, Canada. Sponsors: T. H. Jackson, J. R. Lalonde.

Richard J. Smith—Textile Technologist, Imperial Chemical Industries Ltd., Dyestuffs Div., Hexagon House, Blackley, Manchester, England.

James M. Stephenson—Dyer, Collins & Aikman Corp., Roxboro, N. C. Sponsors: G. R. Currier, W. C. Parker.

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JUNIOR

Ruth E. Atkinson—Lab. Technician, The Apponaug Co., Apponaug, R. I. Sponsors: G. H. Harwood, K. DeCesare.

George H. Glass, Jr. — Managerial Apprentice, Burlington Mills Corp., Burlington, N. C. Sponsors: J. B. Neely, W. L. Triplett, Jr.

Leo Linden—Textile Engineer, Warwick Mills, Boston, Mass. Sponsors: M.

Resolution Re Dr. Robert E. Rose

WHEREAS, the passing of Dr. Robert E. Rose, Charter Member and President for three terms of the American Association of Textile Chemists and Colorists, has been reported to the Council during its 155th Session on September 27th, 1946, and

WHEREAS, the Council is mindful of the years of invaluable service contributed to the activities of the Association and

WHEREAS, Dr. Rose was held in the highest personal esteem by his associates in the American Association of Textile Chemists and Colorists, be it

RESOLVED, that the Council rise in respect to the memory of Dr. Rose during the reading of this Resolution,

that the Secretary send a copy of this Resolution to Mrs. Robert E. Rose, and that the Resolution be spread on the minutes of this Council meeting and that it be published in the Proceedings of the Association in the next issue of the American Dyestuff Reporter.

McBee, G. H. Hotte.

Geoffrey B. Myers—Asst. Dyer, Bradford Dyeing Asso., Bradford, R. I. Sponsors: A. W. Spencer, E. J. Chornyei.

Royce A. Peabody—Asst. Chemist, Waldrich Co., Delawanna, N. J. Sponsors: H. E. Hager, C. Z. Draves.

Jeffrey J. Shapiro—Asst. Prof. Manager, Fabrica De Hilados Y Tejidos "El Universo," S. A. Sponsors: A. Brandt, L. P. Brick.

Mary R. Sullivan — Research Chemist, Monsanto Chemical Co., Dayton, Ohio. Sponsors: J. C. Harris, B. R. Roberts.

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Winifred F. Denning—Salesman, Swift & Co., Philadelphia, Pa.

Brooks M. Dyer — Representative, Pittsburgh Plate Glass Co., Philadelphia, Pa.

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Hans R. Jagenburg — Manager, Bleach, Dye, Printing & Finishing Dept., Boras Wafveri A-B, Boras, Sweden.

Thomas C. Jordan—Salesman, W. H. & F. Jordan, Jr., Mfg. Co., Philadelphia, Pa.

Esteban F. Juncadella—Tech. Advisor in Dyestuff Application, Compania Quimico Comercial De Cuba S. A., Habana, Cuba.

Paul G. Mansuy—Sales Repr. to Text. Industry, Procter & Gamble Co., Newark, N. J.

Stuart M. McCabe—Sales, National Oil Products Co., Inc., Harrison, N. J.

FALL MEETING, PIEDMONT SECTION

PLANS for the fall meeting of the Piedmont Section have been completed and the following program is announced for the meeting, to be held in Charlotte, North Carolina, October 26, at the Hotel Charlotte.

The technical sessions will include the following discussions in the afternoon meetings:

HOSIERY SECTION—Harry White of Se Ling Hosiery Mills, Inc., Nashville, Tennessee will lead a discussion on the dyeing and finishing of nylon hosiery.

PIECE GOODS SECTION—Dr. William F. Luther of the Industrial Research Institute of the University of Chattanooga will lead a discussion on the handling of piece goods. The exact title of his talk will be announced at a later date.

BANQUET SPEAKER—Dean Emeritus Dr. D. W. Daniel of Clemson College will use as his subject "The Looking Glass."

A large attendance is expected and reservations for the banquet should be made in advance through Roy J. Beauregard, Treasurer, care of the Fairforest Finishing Company, Spartanburg, S. C. Hotel reservations should be made direct with the hotel. The committee in charge of arrangements for the meeting are Winnifred A. Wardell of the Rohm & Haas Company and Fred E. Sprock, Geigy Company.

Announcements regarding the Silver Jubilee Anniversary meeting to be held in Boston in December will be made.

The election of Piedmont officers for 1946-1947 and reports for the past year will constitute the main portion of the business meeting.

CALENDAR OF COMING EVENTS

PHILADELPHIA SECTION:
Meetings: November 15, January 17, February 28, April 11, May 23.

NEW YORK SECTION:
Meeting: October 18
(Swiss Chalet, Rochelle Park, N. J.)
Meetings: November 22, January 31, March 7, May 2

MID-WEST SECTION:
Meeting: October 19
(Bismark Hotel, Chicago)

PIEDMONT SECTION:
Meeting: October 26
(Hotel Charlotte, Charlotte, N. C.)

SOUTHEASTERN SECTION:
Meeting: October 26
(Ansley Hotel, Atlanta)

NATIONAL CONVENTION:
Silver Jubilee Convention: December 12, 13 and 14.
(Hotel Statler, Boston)

SUB-COMMITTEES:
Meeting: December 12
(Hotel Statler, Boston)

RESEARCH COMMITTEE:
Meeting: December 14
(Hotel Statler, Boston)

HOTEL RESERVATIONS

PLANS for the Silver Jubilee Convention in Boston are progressing under the leadership of George O. Linberg, General Chairman. Early in October each member will receive a card on which he can specify the type of hotel accommodation desired. All requests for hotel reservations are to be handled by the Housing Bureau, 80 Federal Street, Boston, Mass. Reservations will be acknowledged from this office and assigned to various hotels which will, in turn, give a direct confirmation on each reservation. We would suggest that members do not contact the hotels directly on room reservations. The Committee feels that ample hotel space will be available.

BOOK REVIEWS

German for the Scientist (Chemist and Physicist)

Peter F. Wiener, Modern Language Master at Rugby School with an introduction by E. N. da C. Andrade, with additional sections by Paul Tpoerri. 238 pages. Published by Chemical Publishing Co., Brooklyn, N. Y. 1946. Price $3.50.

This book is rather unique, in that it combines German grammar, selected readings of a scientific and technical nature, and a vocabulary. It will prove to be an agreeable surprise to those who have been disappointed in other available texts and for those who wish to teach or study technical German.

The reading material has been selected from modern literature giving passages from most prominent physicists and chemists of our time. The book gives a real incentive to students for translating scientific texts. Most institutions of higher learning in this country require a reading knowledge of scientific German as a prerequisite to advanced degrees. This rather forcibly shows that such a knowledge is still considered an essential tool of the young scientist. This book can be highly recommended for classes in educational institutions and for individuals who wish to review their knowledge of technical German.

Modern Organic Finishes: Their Application to Industrial Products

Rollin H. Wampler, Technical Director, Southern Varnish Co. 452 pages fully illustrated. Price $8.50. Published by Chemical Publishing Company, Brooklyn, N. Y. 1946.

This book is primarily one of methods. It describes modern finishing materials, the equipment for their application, drying and conveying. The main emphasis is on proper selection and use in order to get the best possible finish at minimum cost.

The author's aim is to acquaint prospective users of finishes with the possible materials available, the equipment for their use, and typical methods of application.

While the book is chiefly concerned with the surface coatings of mechanical equipment, furniture, plywood, air craft, and automotives, one chapter is devoted to the finishing of paper and fabrics. A chapter on Testing and Evaluation of Finishes and a Bibliography is included.

Encyclopedia of Hydrocarbon Compounds, Volume I

Compiled by Dr. Joseph E. Faraday. Loose Leaf, Price $15.00. Published by the Chemical Publishing Co., Brooklyn, N. Y. 1946.

In the literature of organic chemistry there are two important works that detail every compound known, identified and analyzed up to a certain date. These are Richter's Lexicon der Kohlenstoff Verbindungen and Beilstein's Handbuch der Organische Chemie. In recent years these have not been readily available and in some respects they are seriously out of date, are in German and particularly with Beilstein have a very complicated system of arrangement.

This Encyclopedia of Hydrocarbons Compounds overcomes these disadvantages; furthermore the loose leaf system allows it to be kept permamently up to date by the issue of regular supplement sheets for insertion in their appropriate places.

The first volume of the Faraday Encyclopedia deals with hydrocarbons containing one to five carbon atoms. The sources of information are Beilstein's Handbook der Organische Chemie, and its supplements, and the three greater abstract journals in chemistry, Chemical Abstracts, British Chemical Abstracts and Chemisches Zentralblatt. Thus the chemist will find all the information he needs in one volume to which reference is simple and rapid.

Chemical Crystallography: An Introduction of Optical and X-Ray Methods

C. W. Bunn. 422 pages, 234 figures. Price $7.50. Published by the Clarendon Press. 1945.

Crystallography is playing an increasingly important part in the chemical laboratory and in the development of chemical theory. In recent years crystallography and X-ray technique have played an important role in the study of the structure of textile fibers. The chief uses of crystallography in chemistry are for the identification of solid substances, and the determination of atomic configurations. The applications range from the identification of solid substances by microscopic or X-ray methods, through the determination of molecular weight, size, shape, and symmetry to the detailed study of chemistry by the determination of precise atomic positions in crystals.

This book describes the methods which have been developed for these purposes, and is written by one who is concerned with these applications in a large industrial chemical laboratory for many years. No previous knowledge of crystallography on the part of the reader is assumed.

The book includes an account of the elements of crystal morphology and optics, the interpretation of various types of X-ray diffraction photographs and the location of atoms both by the method of trial and error, and by Fourier series methods.

The author expresses the hope that the difficulties of three-dimensional thinking have been lightened as much as possible by the provision of a large number of diagrams.

Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists

Editorial Board, Henry A. Lepper Chairman, Sixth Edition 1945. 931 pages. 76 figures. Association of Official Agricultural Chemists, P. O. Box 540. Benjamin Franklin Station, Washington, D. C.

This, the sixth edition, includes all changes in old methods, and new methods adopted since October 1944. It is not only the official book of methods of the A.O.A.C. but has become the national standard of analysis and reference book for all laboratories and educational institutions interested in soils, fertilizers, drugs, foods, insecticides, naval stores, tanning materials, beverages, coloring matters for foods, water, etc.

This book should be part of the equipment of every laboratory that deals with the above mentioned products.

The Science and Art of Perfumery

By Edward Sagarin, 268 pages, illustrated. Price $3.00. Published by the McGraw Hill Book Co., 330 West 42nd St., New York, 18, N. Y. 1945.

In recent years the field of synthetic perfumes has come to compare in importance with those of natural origin. The manufacture of such products claims an important position in the field of synthetic organic chemicals.

This book gives a cross-section view of

an entire industry, sketching the interesting historical background of perfume, explaining the processes by which an elusive fragrance is captured from flowers and animals and showing how valuable perfume may be produced in the chemistry laboratory. The art of perfumery and the delicate ratios which must be maintained in procuring a precious scent, the relationship of odor to various kinds of flavoring agents, the commercial development of the tremendous odor business, the psychology of perfumes and the role of perfumery in the life of man—all are included in this fascinating and enlightening book. In the historical treatment of perfumery, recent scientific advances are treated in detail.

Introduction to Emulsions

By George M. Sutheim. 260 pages. Published by Chemical Publishing Company, Brooklyn, N. Y. 1946. Price $4.75.

This book is the outgrowth of a course of lectures given at the Brooklyn Polytechnic Institute in 1943 to 1945. The popularity of these lectures encouraged the author to present them in a somewhat extended form in the present volume. It was written by a practical man for practical men, and is the result of the authors struggle for many years with the troublesome characteristics of emulsions.

The author states in his preface that he wanted very much to read a book that would give the fundamentals, and he could not find it anywhere. There is a number of excellent reference books on the subject; at the top of the list is Clayton's outstanding work: "The Theory of Emulsions and Their Technical Treatment." In addition, many of the textbooks on colloid chemistry offer valuable chapters on emulsions and a large amount of research work is published in periodicals on chemistry and physical chemistry.

Yet, the emulsion field is a tricky one, and the information given is usually highly specific and sometimes contradictory. Beginners in the field are bewildered by the variety of complicated facts and technical terms, and even old technicians, if they are honest, must admit that many of their results are obtained by the good old hit and miss method. It is the sincere hope of the author that this book may contribute to rendering the proportion of hits to misses more favorable.

Structural Inorganic Chemistry

By A. F. Wells. 590 pages, 175 figures, 31 tables. Price $7.50. Published by Oxford at the Clarendon Press. 1945.

Classical stereochemistry was restricted to the study of the configuration of finite groups of atoms (molecules and complex ions). The introduction of structural methods, in particular the study of the solid state by the methods of X-ray crystallography and of the vapors by electron diffraction has greatly extended our knowledge of the spatial arrangement of atoms.

Much of the subject-matter of stereochemistry and crystal chemistry must eventually be incorporated into inorganic chemistry as an integral part of that subject. This is the task the author has undertaken in this book.

After the introductory chapters on the structure of the atom, forces between atoms and the spatial arrangement of atoms in various states of aggregation—particularly in the solid state—the author reviews the structural chemistry of the more imporant groups of inorganic compounds. As the book is concerned with the preparative detail and properties it is complementary to usual text-books of inorganic chemistry.

In the preface the author expresses the wish, that his book will awaken interest in a branch of study which has been too long divorced from the routine teaching of chemistry and physics. Now, after fifteen years in which the study of atomic arrangement has been actively pursued, it is more than ever necessary that the chemist should understand and make use of the results obtained by the new structural methods.

TRADE NOTES • NEW PRODUCTS

• REPUBLIC STEEL BOOKLET

A new booklet, just published by Republic Steel Corporation discusses the use of stainless steel for dyeing and bleaching operations, including the modern continuous processes. Sections on the choice of the type of stainless for textile equipment, and on the care of stainless machinery, should be of especial interest to dyehouse and bleachery superintendents.

• A.S.T.M. MEETINGS

A. S. T. M. meetings scheduled for the future include the following:

Committee D-13—Park Central Hotel, New York, October 16, 17, 18. The usual sub-committee meetings will be held and on Thursday, October 17, at 2:00 p.m. a session will be devoted to a discussion of textile testing in Germany. Speakers include: Dr. Herbert F. Schiefer, Senior Physicist, National Bureau of Standards; Dr. Lyman Fourt, Research Associate, Milton Harris Associates; and Richard T. Kropf, Director of Research, Belding Heminway Corticelli.

1947 Spring Meeting and Committee Week—Benjamin Franklin Hotel, Philadelphia, February 24-28.

1947 (Fiftieth) Annual Meeting—Chalfonte-Haddon Hall, Atlantic City, June 16-20.

• REJOINS BORNE SCRYMSER

Borne Scrymser Company of Elizabeth, New Jersey and Charlotte, North Carolina, is pleased to announce the return of Major Willard E. Smith, of Arlington, Virginia after 4½ years with the Chemical Warfare Service. Prior to entering the service, Major Smith was engaged in research and development on fiber conditioners and tinting compounds, including the new Minotints which have just been released to the textile industry. He is being assigned to South Carolina territory, but will be available throughout the South for special services, working under Russell C. Young, Southern Manager of Borne Scrymser Company at Charlotte, North Carolina.

• APPOINTED DIRECTOR OF MANUFACTURE

Dr. Samuel Lenher, manager of the Chambers Works of the du Pont Company, at Deepwater Point, N. J., has been appointed director of manufacture for the dyestuffs division of the company, with headquarters in Wilmington. The position is a new one in the Organic Chemicals Department. In his new capacity, Dr. Lenher will report to Dr. Ivan Gubelmann, manager of the dyestuffs division.

W. C. Brothers, assistant manager of the Chambers Works, moves up to the managership. He will be succeeded by Francis Knowles, superintendent of the Kinetic Chemicals area at the Chambers Works.

Dr. E. C. Humphery, in his present position of production manager, and Mr. Brothers will both report to Dr. Lenher.

OBITUARY

ROBERT E. ROSE

WITH the death of Dr. Robert E. Rose, which occurred in San Mateo, California, on Sunday, September 22, 1946, the textile chemical fraternity lost one of its leading figures.

Doctor Rose was not only recognized as one of the outstanding textile chemists of his generation but was also a man whose personal charm and manifold accomplishments in a wide field of activities had endeared him to everyone who had the privilege of his acquaintance.

He was well known as a naturalist and had traveled extensively throughout the Americas and Europe. His collection of colored photographs, taken in many out of the way corners of the world from Alaska to the Balkans, were regarded by those privileged to view them as constituting one of the finest amateur series of travelogues in existence.

Doctor Rose was born at Palermo, Sicily, on June 2, 1879. Privately educated in his youth, he received his Ph.D. from Leipzig University in 1903. He was an instructor in chemistry in the University of St. Andrews, Scotland, from 1903 to 1905 and later lectured at University College, Nottingham, England from 1905 to 1907.

In 1907 he came to the United States and served as an assistant professor of chemistry at the University of Washington until 1917 and as a fellow at the Mellon Institute in 1917. He joined E. I. du Pont de Nemours & Company, Inc. in that same year as an organic chemist.

While at the University of Washington, he married Glenola Behling—also an assistant in the University's department of chemistry—who survives him. They had no children.

Doctor Rose's only commercial connection was with the Du Pont Company, where for 23 years he was director of the Dyestuff Application Laboratory of the Chambers Works at Deepwater Point, New Jersey.

He retired from active directorship of the Laboratory on July 1, 1944, but retained a contact in a consultative capacity. He was one of the country's leading authorities on dyestuff application to textiles and had numerous patents granted in his name.

Doctor Rose was a charter member and the fourth president of the American Association of Textile Chemists and Colorists—having held the latter office from 1933 to 1935. At one time or another, he had also been an advisor to the Textile Foundation and a director of the American Chemical Society and of the U. S. Institute for Textile Research. He was also a member of the American Institute of Chemical Engineers, the Society of the Chemical Industry, the Society of Dyers and Colourists, the Franklin Institute, and the Faraday Society.

• TARIFF LEAGUE MEETING

United States Senator Owen Brewster of Maine, recently re-elected, will be the principal speaker at the 61st Annual Dinner of The American Tariff League at the Waldorf-Astoria Hotel, New York City, October 17, League President H. Wickliffe Rose announced.

Senator Brewster's address will climax a day of tariff conferences, including the Annual Meeting of the League and a meeting of the Board of Managers at which League officers will be elected for the coming year.

The 61st Anniversary Program of The American Tariff League, on Oct. 17, will commence at 2 p.m., with a meeting of representatives of hand industries in the Astor Gallery of the Waldorf-Astoria, to be followed at 4 p.m., in the same room, by the Annual Meeting of the League, attended by members from all over the country. Elections to the Board of Managers will be held, and Dr. John Lee Coulter, Washington consultant of the League, will report on national and international tariff matters. Election of League officers for the coming year will be held by the Board of Managers.

Preceded by a social hour, the 61st Annual Dinner will be held in the Starlight Roof of the Waldorf-Astoria. League President Rose will make his annual report of League activities and Senator Brewster will follow with his address.

• ANNUAL MEETING, T.R.I.

Lewis Sanders has announced further plans for the Textile Research Institute's annual research meeting to be held in New York City on Friday, November 8, 1946 at the Waldorf-Astoria Hotel. "Production Progress Through Textile Research" is the theme selected for the entire day's program, which is under the supervision of the Institute's Annual Meeting Committee. A. G. Ashcroft, Director of Research at the Alexander Smith & Sons Carpet Company, Yonkers, New York, is Chairman of the Meeting Committee.

The speakers and arrangements for the program are being planned for by the Program Committee, with Mr. Richard Kropf, Chairman, who is Research Director of Belding Heminway Corticelli. An innovation for the Institute, Mr. Sanders said, is being planned this year in the form of research exhibits. The invitations for exhibits and their display are under the supervision of Ephraim Freedman, Standards Director of R. H. Macy & Co., who is Chairman of the Institute's Exhibits Committee. Serving with Mr. Freedman on this Committee are, Frank D. Meade, William Skinner & Sons; Herman E. Hager, General Dyestuff Corp.; Fred

Bonnet, American Viscose Corp.; and Frederick Noechel, Botany Worsted Company.

The day's program, Mr. Sanders said, has been divided into four parts. The first will start at 9:30 a.m. for Institute business only. The second part will start at 10:45 a.m. and all subjects of the speakers until lunch time will deal with the relation of research to production. Luncheon of the annual meeting will be served in the Starlight Roof of the Waldorf-Astoria and a special guest, to be announced soon, will be the only speaker at the luncheon. The afternoon program, which will start at 2:30 p.m., will have talks covering the applications of research to production.

Other members serving on the Annual Meeting Committee of the Institute are Earl Constantine, President of the National Association of Hosiery Manufacturers; J. B. Goldberg, Director of Research of the J. P. Stevens Company; Dr. Harold DeWitt Smith, Treasurer of A. M. Tenney Associates; and Kenneth Wilson, Vice-President of the Forstmann Woolen Company.

Members of the Institute will receive formal notice of the business meeting. Non-Institute members are welcome to attend the technical sessions, which start at 10:45 a.m., and the luncheon. Mr. Sanders said it is anticipated that this will be the largest attended annual meeting of any that the Institute has held in its seventeen years.

• S.O.C.M.A. ANNUAL MEETING

The twenty-fifth annual meeting of the Synthetic Organic Chemical Manufacturers Association will be held on December 17th at the Hotel Roosevelt, New York.

George W. Burpee is chairman of the Program Committee which also includes as members, W. M. Billing, C. M. Richter and R. E. Dorland, *ex-officio*. It is reported that an interesting and entertaining program is planned for the annual dinner.

• NORTH AMERICAN CYANAMID LIMITED

Calco Chemical Division, North American Cyanamid Limited, has been formed to distribute a complete line of dyestuffs, chemicals and intermediates to the textile, leather, paper and plastic industries. This division will also handle bulk medicinal chemicals for the pharmaceutical trade, textile resin finishes, and pigments.

The new division will maintain sales offices and warehouses in Montreal and Toronto. Laboratories and technical service facilities have been established to provide prompt, efficient service to its customers. W. H. Kieffer, manager of the new division, states that ample warehouse facilities will enable the company to carry extensive stocks, thus assuring their customers prompt delivery of their orders.

Inquiries will be welcomed and may be directed to Calco Chemical Division, North American Cyanamid Limited, Victoria Avenue at Bute St., St. Lambert, Montreal, the Calco Division's Main Office, or to the Royal Bank Bldg., Toronto 1, Canada.

ABIJAH U. FOX, who has been elected Chairman of the Board of Directors of The Mathieson Alkali Works. Mr. Fox recently returned from Europe where he served as Deputy Director, Finance Division, U. S. Military Government, Germany.

Prior to his War Department post, Mr. Fox was with the Treasury Department, which he joined in 1941. He served as Deputy Director, Foreign Funds Control, and Director of the Office of Surplus Property.

From 1926 until 1941, Mr. Fox was in financial work in the Far East. After graduating from Rutgers University in 1926, he went to Tokyo for the National City Bank and remained there for eight years as Assistant Manager. In 1934, he joined the security investments firm of Swann, Culbertson & Fritz, an affiliate of Hayden Stone & Co. As managing partner, Mr. Fox was at the main office in Shanghai until he returned to this country in 1941.

• JOINS A.S.A.

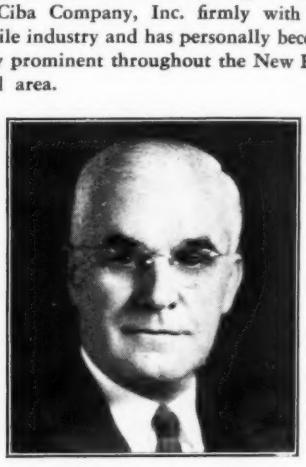
As part of the American Standards Association's increased activities in the field of consumer goods, Dr. A. Frank Tesi has been added to the staff. Dr. Tesi obtained his Bachelor of Science Degree in Chemical Engineering in June 1931 from the University of Pittsburgh and then joined the Mellon Institute.

Dr. Tesi also pursued graduate work in chemical engineering at the University of Pittsburgh and received his Ph.D. degree in February 1943. The thirteen years spent in the testing, evaluating and setting of standards for over two hundred consumer products will be of considerable value in his new work on consumer goods standards.

• RALPH F. CULVER RETIRES

Ciba Company, Inc., New York City, has announced the retirement of Ralph F. Culver as manager of the Providence office, effective as of August 1, 1946. Raymond W. Jacoby of the New York office has assumed the duties of Providence branch manager, effective as of that date.

Mr. Culver has been very successful over the past 25 years in establishing the name of Ciba Company, Inc. firmly with the textile industry and has personally become very prominent throughout the New England area.



Ralph F. Culver

He was born August 1, 1881 in Croton, Massachusetts and received his preliminary education in the public schools of that town. In 1901 he entered Lowell Textile Institute and graduated in 1904 after completing a course in chemistry and dyeing. His varied experience in the textile industry includes positions in prominent organizations throughout New England such as chemist in the Glenlyon Print Works, and assistant dyer in the Arnold Print Works, North Adams, Mass., where he was promoted to the position of superintendent of dyeing in 1906.

Then in 1908 he accepted a position as manager of the Holliston Mills, Norwood, Mass., where he remained until 1912. In 1916 Mr. Culver left the textile industry to enter the dyestuff field, his primary interest. In February 1921, he associated himself with the newly incorporated Ciba Company of New York City and was appointed manager of the Providence office. The following year he was made a director of the company and was elected vice-president.

Over the past couple of decades Mr. Culver has always been extremely active in the American Association of Textile Chemists & Colorists and has spent a

considerable amount of time as chairman of the Rhode Island section and has been a member of the National Council. The dyestuff industry in general appreciates his contributions and wishes him well during his period of retirement.

• VAT-STEAM METHOD OF CONTINUOUS DYEING

Details of the equipment used in the new vat-steam method of continuous dyeing have recently been announced by H. W. Butterworth and Sons Company.

Butterworth ranges for continuous vat dyeing are now in operation in some of the leading textile plants, producing fast shades at speeds ranging up to 120 yards per minute. It is claimed that results include more uniform color application and savings up to 25 per cent in dyestuff costs.

The thorough color fixation achieved with the range is the result of a newly designed Butterworth Steamer.

The Butterworth Steamer is claimed to be one of the most efficient textile finishing machines ever produced. By liberating "live" steam in an air tight chamber, this machine is said to assure penetration of the dye into the heart of the fabric, and more thorough color fixation than ever before possible.

Cloth enters the Steamer at the top for straight steam processes. Cloth enters the bottom through a liquid seal for steam and liquid booster processes. Choice of cloth entrance depends upon processes used to obtain desired effects.

In at least one dye house, the vat dyeing operation is accomplished as one continuous process. This is not a typical arrangement because of the expensive drying equipment involved.

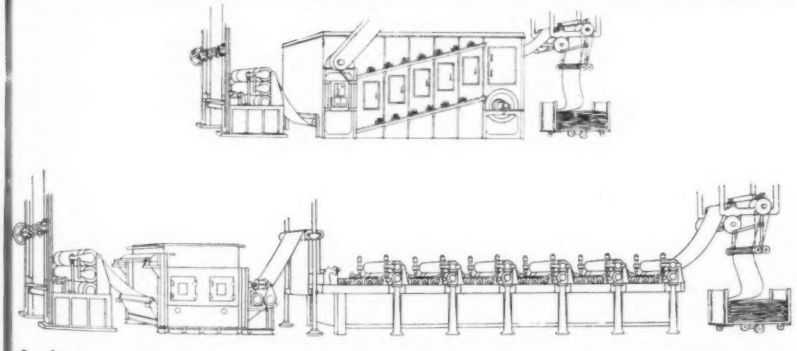
The usual arrangement is to accomplish the vat dyeing in two ranges. The first range includes a 3-roll padder for application of the color in pigment form, a special type air-dryer and a folder. The second section includes a 3-roll padder, a steamer, a water seal and squeeze rolls, a 6-box washer and a folder.

The performance of continuous vat dyeing ranges is said to lead many textile men to believe that this process will gradually replace slow, one-step-at-a-time vat dyeing methods.

DR. GEORGE L. ROYER, an Assistant Director of the Physical Chemical Section, Research Laboratories, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J., who has been awarded one of the first Fellowships ever granted in the field of Biological Photography, by the Biological Photographic Association.

Dr. Royer has made many important contributions to the advancement of scientific illustration. The paper "Microscopic Techniques for the Study of Dyeing," prepared by Dr. Royer and his associates, was published in 1945 as a Technical Bulletin by the Calco organization and has received wide recognition.

Dr. Royer received his Ph.D. degree from Cornell University in 1932 and came directly to Calco. Under his supervision the Microscopical Section of the Calco Research Laboratories has become one of the outstanding microscopical laboratories in the industry.



In the first section of the Butterworth Vat Dyeing Range, goods enter a 3-roll padder in which the color is applied in pigment form, followed by drying on a special type air-dryer and folding onto a hand truck from a 3-roll folder.

In the second section of the Butterworth Vat Dyeing Range, goods are impregnated with chemicals on a 3-roll padder and then enter a steamer. (Note choice of cloth entrance—at top for straight steam processes or at bottom through a liquid seal for steam and liquid booster processes.) After steaming, goods pass through a water seal and squeeze rolls, and are washed in a 6-box washer, followed by folding onto a hand truck.

• RETURNS TO CARBIDE AND CARBON

John A. Field has recently returned to the New York Offices of Carbide and Carbon Chemicals Corporation as a technical representative for the Fine Chemicals Division. Associated with the Corporation since 1936, Mr. Field has been on leave at the Reconstruction Finance Corporation's Office of Rubber Reserve in Washington, D. C. for the past two years, and was manager of the Production Control Section of that office prior to his return to industry.

Mr. Field will specialize in the development of markets for new chemicals emerging from the research laboratories and entering the industrial field.

• CRANSTON EXHIBIT

Russell Smith, Vice-President and General Manager of the Cranston Print Works of Cranston and Webster, R. I., has announced that the Cranston organization is participating in the du Pont Chemical Exhibit on the Atlantic City Boardwalk for the three weeks which began September 23. The company will display six types of printed fabric, all printed with duPont dye-stuffs, as well as the finished garments made from each type.

The Cranston Print Works is one of the largest plants of its kind in the country and the only print works whose craftsmen engrave each design by hand. It is claimed that Cranston-Processed fabrics have been sold in the past on a par with top woven materials because of the permanence of the print.

• RETURNS TO CALCO

The Calco Chemical Division, American Cyanamid Company, Bound Brook, New Jersey, has announced the return of Roland C. Morrison as one of its New England representatives calling on the Textile Dyeing and Printing industries.

Mr. Morrison recently was ordered to inactive duty in the U. S. Naval Reserves, in which he served almost three years, attached to the amphibious forces in both the European and Pacific-Asiatic theaters, holding the rank of Lieutenant (j.g.).

Mr. Morrison graduated from Lowell Textile Institute in 1934 with a bachelor's degree in chemistry and dyeing. He joined the Silver Spring Branch of the United States Finishing Company in 1934 as a plant trainee, later to become Assistant

Superintendent of Printing in 1937. When this plant ceased operating in 1938, he joined the sales force of the Calco Chemical Company, carrying out the functions of both sales and technical service work.

• LIXATE BRINE PAMPHLET

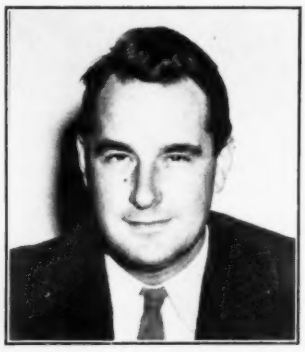
International Salt Company, Inc., originator of the technique of making brine by self-filtration, has just published a pamphlet describing operating economies that the Lixate Rock Salt Dissolver produces in regenerating zeolite water softeners. Copies of it and other literature on the Lixator may be obtained free of charge from the company in Scranton, Pa.

Explaining that the Lixator is made in a wide range of sizes to meet any brine volume requirements, the pamphlet points out that the unit is completely automatic, eliminates salt handling and produces pure, fully saturated, self-filtered brine.

• NEW BURKART-SCHIER LABORATORY

Burkart - Schier Chemical Company, Chattanooga, Tenn., has announced the completion of their new Research and Development Laboratory. Modern apparatus and equipment has been installed throughout. All walls, ceiling, and partitions are of stained pine panelling as this type of construction has proven exceptionally well suited for laboratory use.

Table tops are of stainless steel, Albarene stone, or glass; all floors are greaseproof Tiletex. A new laboratory office and library and conference room have been added. In addition there is a large stock room with adequate facilities for storage of samples and supplies.



JOHN W. DERSCH, who has been appointed Project Engineer of the Marietta Works of Calco Chemical Division, American Cyanamid Company, Marietta, Ohio.

Mr. Dersch is a graduate of the University of Michigan, with a degree in Chemical Engineering. Upon graduation in 1936 he joined the Calco organization as a student engineer, and in 1940 was promoted to Divisional Engineer of the Azo Dye Division.

Mr. Dersch has been Project Engineer since June 1945 of the Brown Company, pulp and paper manufacturers, of Berlin, N. H.

The company states that this new laboratory, in conjunction with their established technical service and plant control laboratories, should enable them to implement and broaden their service to the industry.

A new one story chemical storage warehouse has just been completed on company property adjacent to present buildings. This structure is of mill type construction with brick exterior and steel framing. Sears and Shepherd of Chattanooga were the architects and the John Martin Company, general contractors.

Burkart-Schier now operates plants in Chattanooga, Nashville and Knoxville.

A view of the new Research and Development Laboratory of Burkart-Schier Chemical Company.

• TEXTILE RESIN BOOKLET

A new bulletin, "A Dye Staining Technique for Studying Shrinkage Control Imparted to Cotton by Melamine Resins," has been announced by The Textile Resin Department of the American Cyanamid Company.

The bulletin discusses the correlation between variable direct dyestuff pick-up and shrinkage control in fabric that has been treated with methylated methylol melamine resins.

The bulletin is available upon application to the Textile Resin Department, American Cyanamid Company, Bound Brook, N. J.

• RESEARCH DIRECTOR, T.R.I.

Announcement has been made by Lewis Sanders, President of the Textile Research Institute, Inc., of New York, with research laboratories in Princeton, New Jersey, and Edward T. Pickard, Secretary of the Textile Foundation, that Dr. John H. Dillon had been appointed the Research Director of both organizations.

The Textile Foundation conducts its research in the textile field along pure science lines by its staff in the same building as is owned and occupied by the Textile Research Institute in Princeton, New Jersey.

Dr. Dillon resigned his position as Assistant Director of Research of the Chemical and Physical Research Laboratories of the Firestone Tire and Rubber Company at Akron, Ohio, where he has been continuously engaged with that company since 1931, a part of the time as Research Physicist. Since 1937 he has been in charge of the Physics Research Division of their research laboratory and early in 1945 was made Assistant Director of their Chemical and Physical research.

• MONSANTO APPOINTMENTS

Appointment of Dr. C. K. Bump and H. W. Mohrman as assistant directors of research has been announced by Dr. N. N. T. Samaras, research director of the Plastics Division of Monsanto Chemical Company.

Dr. Bump will be in charge of general application and technical service sections, while Mr. Mohrman will head the physics and physical testing sections. The two men were formerly research group leaders.

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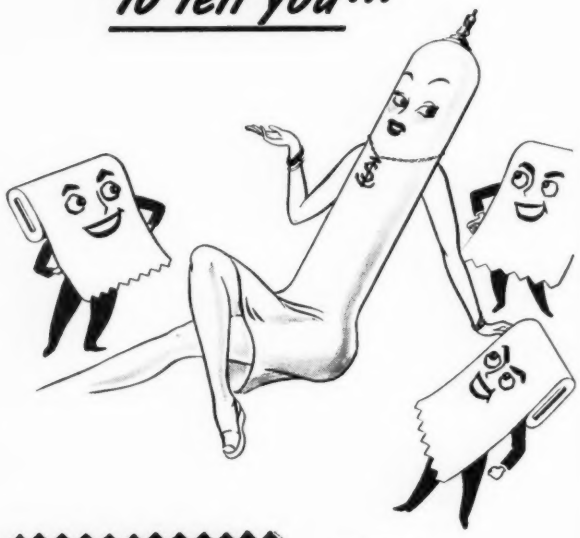

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Also a fast wetting agent and penetrant for dyeing packages, piece goods, skeins and raw stock.

Kali

MANUFACTURING COMPANY

Manufacturing Chemists

427 Moyer St. **Philadelphia 25, Pa.**

QUALITY RICHMOND PRODUCTS

CUT DOWN DYEHOUSE ***Headaches*** USE

DYETEX

- Disperses Dyestuff
- Scours
- Used in Scrooping

DYETEX

Send for free sample and full information

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.

1041-43 FRANKFORD AVE., PHILADELPHIA 25, PA.

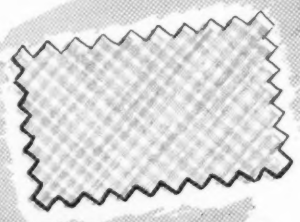
FOR RICH,
SMOOTH SOFTNESS

FOR PERMANENT
UNIFORM FINISH

CATYLON

A HARTEX PRODUCT

Cation-active Softener



FOR BRIGHTER SHADES
AND PRINT COLORS

ECONOMICAL

CATYLON is economical—only an exceedingly small quantity of this very efficient softening agent need be used.

CATYLON is permanent—repeated laundering or dry cleaning will not affect the original handle of the fabric or the rich, smooth softness of the finish.

CATYLON makes fabrics more "salable"—assures bright shades, clear print colors and uniform finish.

CATYLON is available in a complete range of Cation-Active chemical formulae to meet all your special fabric requirements. Let our demonstrator prove, in *your* plant, the benefits resulting from the use of CATYLON. Your inquiry entails no obligation.

HART PRODUCTS CORPORATION • 1440 Broadway, N.Y. 18, N.Y.

HARTEX PRODUCTS

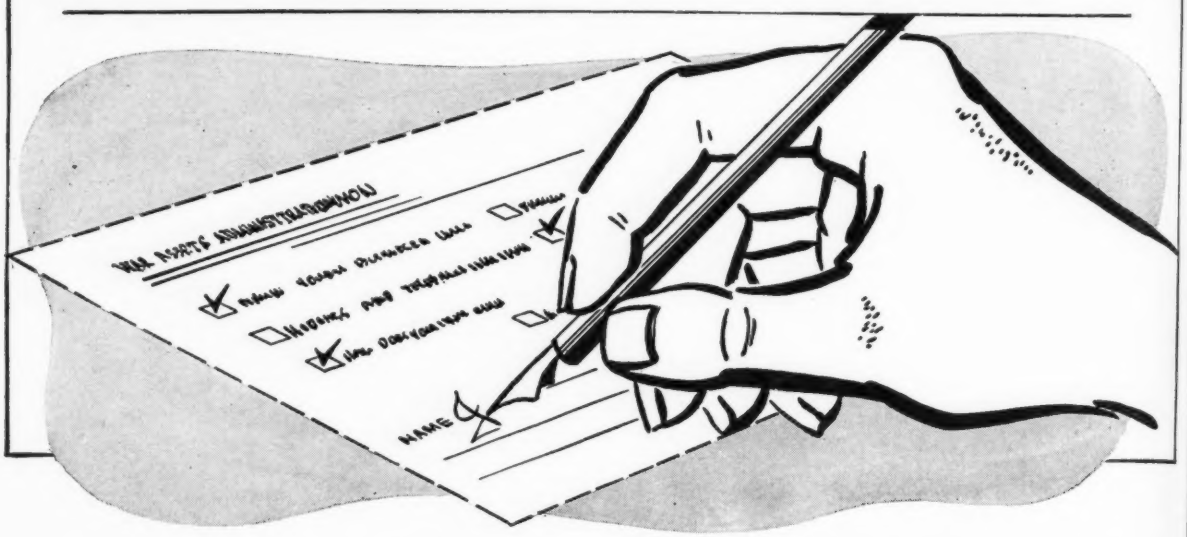
Rayon Oils & Sizes	Splashproof Compounds
Nylon Oils & Sizes	Delustrants
Kier Bleaching Oils	Leveling Agents
Finishing Oils	Cationic Softeners
Synthetic Detergents	Cotton Warp Dressings
Conditioning Agents	Wetting-Out Agents
Scrooping Agents	Weighting Agents
Sanforizing Oils	Mercerizing Penetrants

Send for free booklet, "Mercerizing and ALKAMERCE – The Ideal Dry Mercerizing Penetrant"

Hart Products

based on research

..GOVERNMENT-OWNED SURPLUS PROPERTY..



How to Locate Short Supply and Special Items of

INDUSTRIAL CHEMICALS

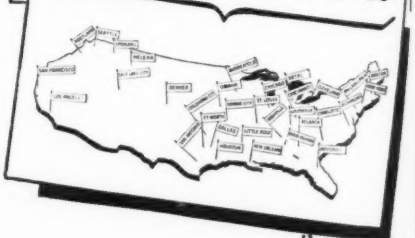
IF you need hard-to-get industrial chemicals, why not contact your War Assets Administration Regional Office? If what you are looking for is not in local supply, the WAA has set up a special Inter-Regional Sales Division to help find it for you—*quickly*—if it is available anywhere in the country.

Remember, there are hundreds of items in the vast stock pile of War Surplus industrial chemicals, many *at below-market prices!* Among them you may find the chemicals *you* want. All items are ready for quick sale and you may arrange convenient credit terms. Your nearest WAA Regional Office is listed below. Write today—or use the coupon below.

ONCE-IN-A-LIFETIME BUYS!

Acids	Calcium chloride
Gas cylinders (all types)	Dimethylaniline
Dyes and intermediated	Coal-tar
Plastic materials	Borax and boric acid
Solvents	Metal salts, oxide and hydroxides
Sealing and caulking compounds	Pitches Gases
Zinc carbonate	Rubber processing chemicals
Picric acid	Copper naphthenate
Welding fluxes	Synthetic & natural glues
Detergents and cleaners	Printing inks (black & colors)
Water treating compounds	and most other chemicals

33 REGIONAL OFFICES TO SERVE YOU



FREE FACTS

War Assets Administration (address nearest Regional Office)

Please supply without obligation, prices, available quantities and locations of items written in below:

....

....

....

..... (Describe item wanted)

Name..... Tel. No.....

Firm.....

Address.....

City..... State.....

155-5

All chemicals are subject to priority regulations. VETERANS OF WORLD WAR II are invited to be certified at the War Assets Administration Certifying Office serving their area and then to purchase the material offered herein.

Much surplus property is available to the export market. Merchandise in short supply is withheld from export, and if such items appear in this advertisement they will be so identified by an asterisk.

WAR ASSETS ADMINISTRATION

GOVERNMENT OWNED SURPLUS

Offices located at: Atlanta • Birmingham • Boston • Charlotte • Chicago • Cincinnati • Cleveland • Dallas • Denver • Detroit • Fort Worth • Helena • Houston • Jacksonville • Kansas City, Mo. • Little Rock • Los Angeles • Louisville • Minneapolis • Nashville • New Orleans • New York • Oklahoma City • Omaha • Philadelphia • Portland, Ore. • Richmond • St. Louis • Salt Lake City • San Antonio • San Francisco • Seattle • Spokane

Stored greige goods..

always ready for Sanforizing when treated with... Twitchell Oil 3X

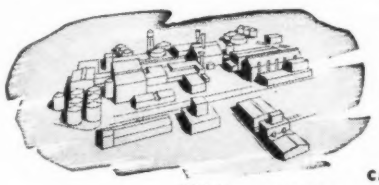
In selecting a rewetting agent another point looms almost as important as the speed of wetting back. This is stability, the ability not only to resist staining and yellowing, but to retain rewetting properties indefinitely.

Check Emery's Improved Twitchell Oil 3X for:

1. Uniform and rapid rewetting which promotes a high yardage output on Sanforizing machine.
2. Retention of rewet properties of fabrics stored after finishing and prior to Sanforizing—No oxidation or staining.
3. General increase in efficiency because Twitchell Oil 3X is anhydrous, contains no volatile ingredients; imparts lubricity to fabrics reducing friction of Sanforizing shoes; causes no tackiness on shoes or gumminess in or deterioration of the Palmer blanket.
4. Compatibility with starches and other ingredients of regular finishing formulae. Used in warp sizes, Oil 3X adds pliability and rewetting properties. Fabrics can be Sanforized direct from looms.

SPOTTING

It's as simple as that—spotting with Twitchell—Scour N-100 and an oil can means process stains remove easily in regular scouring.



EMERY INDUSTRIES, INC.

TWITCHELL OILS FOR PROCESSING TEXTILES

CAREW TOWER • CINCINNATI 2, OHIO

3002 Woolworth Building
NEW YORK 7, N. Y.

187 Perry Street
LOWELL, MASSACHUSETTS

401 N. Broad Street
PHILADELPHIA 8, PA.

STEARIC ACID • OLEIC ACID • ANIMAL AND VEGETABLE FATTY ACIDS • TWITCHELL PRODUCTS • PLASTICIZERS

Looking for that "Finishing Touch" on your Rayons, Acetates, and other Synthetics and Mixtures?

Where extreme softness, elegant draping qualities and exquisite hand are desired, turn to Corasil RT. For this highly concentrated synthetic ester is the ideal plasticizer and softener for rayon crepe soaking, rayon warp sizing, fabric finishing and back-filling cottons.

Make a mental note now to give Corasil RT a real trial in your softening and plasticizing operations. Write today for detailed information and experimental samples of Corasil RT.

E. F. DREW & CO., INC.

Main Office: 15 East 26th Street, New York 10, N. Y.

80 Federal Street, Boston 10, Mass. — Factory & Laboratories, Boonton, N. J. — 919 N. Michigan Ave., Chicago 11, Illinois

I am interested in Corasil RT

- ☐ Send complete information
- ☐ Send sample for mill trial
- ☐ Have technical representative call

Name .....

Company .....

Street .....

City ..... State .....

Drew TESTED

LOOK INTO THE "O" FILE FOR

2 Satisfying Answers

TO YOUR TEXTILE PROCESSING PROBLEMS

Soaps or synthetic cleaning agents? Which will be better suited to the type of materials you handle and to your particular operating conditions? Your own experience can best answer this question.

But whatever your preference may be, you'll get top performance from either Olate or Orvus in your wet finishing operations. And there's a good chance you'll find that both can be helpful in your mill.

Olate

A pure, neutral, low titer flake soap with a reputation of many years' standing as an efficient scouring and fulling agent.

Fast dissolving, fast rinsing.

Fluid solutions—wet out fibers quickly, evenly, thoroughly.

Excellent emulsifying and lubricating properties.

Gentle cleansing action.

Provides excellent protection against uneven shrinkage and non-uniform fulling . . . against harshness or stickiness.

Retains its efficiency at lower-than-average temperatures.

ORVUS*

A gardinol-type product (sulfated fatty alcohol).

Fast, thorough wetting, emulsifying and scouring action.

Effective even in hard water. Helps guard against scum, streaks, specks and spots from hard water deposits.

Effective in presence of acids and alkalis.

Safe to fiber, fabric and color. Excellent results in scouring fugitive colors.

Promotes more uniform and thorough dyeing.

Helps prevent undesirable odor and yellowing of goods in storage.

O

Procter & Gamble

*ORVUS is a Procter & Gamble trade-mark.

DYESTUFFS

•

SPECIALTIES

BICK & CO., Inc.
Manufacturing Chemists
Reading, Pa. Charlotte, N. C.

QUALITY **RICHMOND** PRODUCTS

Less Handling with

AFTER CHLOR

Eliminates 3 to 5 Handlings

Bleach with
Hypochlorite
Rinse and Use

AFTER CHLOR

THAT'S ALL!

Write for FREE Sample

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE., PHILADELPHIA 25, PA.

HYGROLIT*

There is also a

HYGROLIT LIQUID

for YOUR particular Yarn Conditioning Problems!

Yes, we have licked them for hundreds and hundreds of leading textile mills. HYGROLIT CONDITIONING LIQUIDS are compounded, under most rigid control, *for your specific requirements.*

Our research laboratory and technical staff, with many years of specialized experience in textile conditioning, are at your disposal without obligation.

Ask for descriptive literature and Questionnaire #911

K E A R N Y
MANUFACTURING COMPANY, INC.

Kearny N. J. — KMC — Greenville S. C.

Montreal Mexico Sao Paulo Buenos Aires Antwerp

*Reg. U. S. Pat. Off.

pH INDICATORS FOR "EVERYBODY"

. . . IN LAB OR PLANT

IN THE PLANT of the Kent Mfg. Co. woolen mill, Clifton Heights, Pa., pH of indigo dye is measured with an L&N Glass-Electrode pH Indicator.

The pH measuring problems of the lab and of the dyehouse are efficiently solved by two related but distinctly different L&N Portable Indicators.

The lab chemist, familiar with pH theory, chooses the Universal pH Indicator, and secures high accuracy and sensitivity, in a speedy and convenient instrument. Using this precise, general-purpose Indicator, he can measure pH with any electrode, can titrate, and can measure oxidation-reduction potentials.

The dyer or finisher, knowing nothing of pH theory but needing a dependable instrument for rapid routine tests, is given an L&N Glass-Electrode Indicator. By its accurate, on-the-spot checks, he can hold specs easily. He has no trouble using the instrument . . . to measure or titrate, he simply pours a sample into the beaker and reads pH directly.

For more complete information, just ask for Catalog E-96(3), Universal Indicator, and E-96(2), Glass-Electrode Indicator.

IN THE LAB, Kent chemist uses an L&N Universal pH Indicator to check carbonized woolen cloth.

LEEDS & NORTHRUP COMPANY, 4965 STENTON AVE., PHILA., PA.

LEEDS & NORTHRUP

MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES

Jrl. Ad E-96-460(2)

NOVA

A COMPLETE LINE OF

DYESTUFFS

for all branches of

TEXTILE DYEING

AND PRINTING—

PAPER AND LEATHER

★

Specializing in fast colors

NOVA CHEMICAL CORPORATION

147-153 Waverly Place, New York 14, N. Y.

WAREHOUSES IN NEW YORK and CHARLOTTE, N. C.

VIRGINIA

SODIUM HYDROSULPHITE

AND SO_2

Progressive textile processors are cutting costs with specialized equipment, developed by VIRGINIA, for application of these two textile stand-bys. Ask your VIRGINIA representative about the "Hydromiser" for regulating the feed of Sodium Hydrosulphite, and VIRGINIA'S semi-automatic antichlor method for controlling SO_2 concentrations in the sour box.

Offices and Stocks in:
New York • Boston
Philadelphia
Detroit • Charlotte

VIRGINIA

VIRGINIA SMELTING COMPANY

WEST NORFOLK, VIRGINIA

In continuous or kier bleaching you need the stabilizing quality of Star. Pure Star Silicate produces a stable solution when any bleachable material is present.

In the continuous system, it is a "must". Star controls the peroxide solution until bleachable goods are introduced.

And Star's purity prevents the formation of flocculent material which might deposit on the fibre, or cause the build-up of a troublesome scale in the continuous bleach equipment.

We shall be glad to work with you in establishing an efficient bleach system with Star.

PHILADELPHIA QUARTZ COMPANY

Dept. A, 127 South Third Street, Philadelphia 6, Pa.
Chicago Sales Office: 205 West Wacker Drive

1831—115th Anniversary—1946

PQ SILICATES OF SODA

LeaTex

The name that means leadership in

CHEMICAL SPECIALTIES

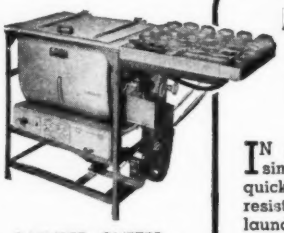
for the

TEXTILE INDUSTRY

"Always Reliable"

LEATEX CHEMICAL COMPANY
2722 N. HANCOCK ST., PHILADELPHIA, PA.

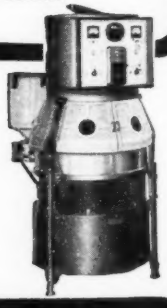
ATLAS-OMETERS



ACCELERATED TESTING EQUIPMENT

IN Atlas-Ometers you have a simple, easy way to learn, quickly, how your products will resist fading, or deterioration from laundering. Atlas-Ometers have been a valuable mainstay of the textile industry for over a quarter of a century. Their time-saving guidance is more essential right now than ever before.

LAUNDER-OMETER—Standard laboratory washing machine of the A. A. T. C. C.—measures resistance to washing action, shrinking, staining, color fastness to soaps and solvents. All factors carefully controlled—can be produced exactly at any time.



FADE-OMETER—Rotates specimens around the Atlas Enclosed Violet Carbon Arc, the closest approach to natural sunlight. Temperature automatically controlled.

WEATHER-OMETER—Duplicates effect of actual exposure—months of sun, rain, heat and cold condensed to a few days.

ATLAS ELECTRIC DEVICES CO.
373 W. Superior St., Chicago, Illinois

ATLAS-OMETERS
LAUNDER-OMETER • FADE-OMETER • WEATHER-OMETER

DRAX protection keeps slip covers fresh and clean longer!

Trademark Reg. U. S. Pat. Off.

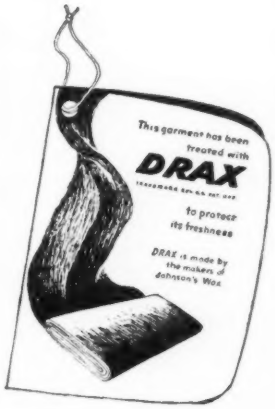
Even DRAX can't keep playful puppies from jumping up on chairs. But DRAX *can* give slip covers *invisible protection with wax* that makes them resist soil and spotting and shed water! DRAX keeps slip covers, upholstery, draperies—any household fabric—clean and new-looking longer! That's why customers consider DRAX such a *plus value* in the merchandise they buy!

Tests by an impartial laboratory prove that DRAX actually produces water-repellency exceeding Army specifications for initial spray rating!

DRAX, made by the makers of Johnson's Wax, may be used not only on cellulose fibers, but on any textile! It's a Johnson's wax emulsion, non-flammable, that stays stable in solution DRAX is easy and inexpensive to use. Its application requires no special skills or extra equipment!

Many textile mills are already adding the plus value of DRAX protection to their fabrics. It will pay you to find out about DRAX now!

S. C. JOHNSON & SON, INC.
Fabric Finishes Division, Racine, Wis.
In Canada,
S. C. Johnson & Son, Ltd., Brantford, Ont.



This DRAX tag is a sign of plus value!

DRAX *is made by the makers of* **JOHNSON'S WAX**
(a name everyone knows)

FREE NEEDLES

for better full fashioned production ..

Clogged needles are enemies of smooth continuous knitting for economical top grade production.

Now that silk is being used again, knitters are using Zurn Bleached Glycerine Softener to keep needles free of gum. Used in the cups or in the troughs it is effective for silk alone or in combination with other fibres in achieving trouble-free knitting with no subsequent dye bath difficulties.

Zurnoil, with over 60 years textile chemical experience has a number of specialties to meet the requirements of conventional or new fibres, new methods and new finishes.

We shall gladly submit samples for trial runs if you will state your problems.

Specialties for
SCOURING
STRIPPING
PENETRATING
FINISHING
LUBRICATION

Zurnoil
TEXTILE CHEMICALS

Oils for all textile conditioning requirements

O. F. ZURN COMPANY
Philadelphia 32, Pa.

KNOXVILLE, TENN. HAMILTON, ONT., CANADA

SYNTHETIC DETERGENTS
ANILINE COLORS
NATURAL DYESTUFFS
SIZINGS and FINISHING MATERIALS

UNITED
CHEMICAL PRODUCTS
CORPORATION

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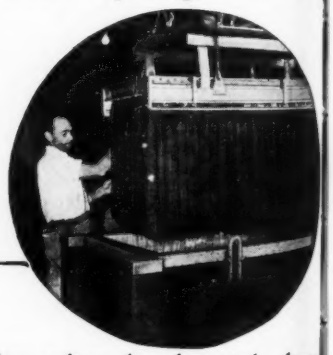
Plant:
YORK AND GOLGATE STREETS • JERSEY CITY 2, N. J.
Branches:
GREENSBORO, N. C. • PAWTUCKET, R. I.
Western Agents: CHEMICAL PRODUCTS CO., AURORA, ILL.

Clearer, more even dyeing, *faster*
with
Laurel
WOOL SCOURING COMPOUNDS



YOU are sure of clean, soft wools and worsteds, clearer more even dyeings when you use Laurel Scouring Compounds. Known for their speedy detergent action and used by leading mills for over thirty-five years, Laurel Scouring Compounds remove grease, oil, dirt quickly economically, without injury to fibers. Keep mineral oils in suspension. Leave wool lofty and with soft hand.. level dyeing. Available now. Send for trial order today Let Laurel Scouring Compounds help you improve quality production and deliveries.

LAUREL WOOL OILS • LAUREL FULLING COMPOUNDS

• SOAPS • OILS • FINISHES •
LAUREL SOAP MANUFACTURING CO., Inc.
Wm. H. Bertolet's Sons • *Established 1909*
WAREHOUSES—PATERSON, N. J. • CHATTANOOGA, TENN. • CHARLOTTE, N. C.
OFFICES—2601 East Tioga Street, Philadelphia 34, Pa

impartial survey shows...

"MILDEW-PROOFING MUST NOT AFFECT DYE PROCEDURE"

G-4 DOES NOT ALTER FINISHING ROUTINES

Because G-4* is effective in such low concentrations and imparts no color to the fabric, its use has only a minimum effect on dye procedure. Such safety in use is one of the essential traits of a mildew-proofing compound, according to results of a recent, unbiased survey in which 212 mills took part. G-4...non-toxic, durable, odor-free, low in cost . . . provides superior protection against mildew and rot.

Enlarged production facilities at Givaudan assure adequate supplies and prompt deliveries of G-4 for the increased requirements of textile finishers.

*Dihydroxy Dichloro Diphenyl Methane

"BUY WISELY . . . BUY GIVAUDAN"

Givaudan-Delawanna INC.

Industrial Products Division · 330 WEST 42nd STREET · NEW YORK 18, N. Y.

COMMONWEALTH
COLOR & CHEMICAL CO.

More than thirty years' experience in the manufacture of Chemical Specialties, Dyestuffs and Dyewoods for the Textile and Allied Trades . . .

MAIN OFFICE AND WORKS:
NEVINS, BUTLER and BALTIC STREETS, BROOKLYN 17, N. Y.
PHILADELPHIA • CHICAGO • GLOVERSVILLE • MONTREAL

• CLASSIFIED ADVERTISEMENTS •

The rate for "Position Wanted" advertisements in this column is 2 cents a word—with a minimum of 50 cents per insertion. For all other types of advertisements—i.e., help wanted, machinery or supplies for sale—the rate is $7.50 per column inch or less per insertion.

CONFIDENTIAL EMPLOYMENT SERVICE — We invite correspondence (confidential) with Dyers, Chemists, Colorists, Superintendents, Master Mechanics, Office Managers, and others seeking positions and with employers seeking high-grade men to fill vacancies or to make replacements. Charles P. Raymond Service, Inc., 294 Washington St., Boston, Mass. Over 45 years in business.

POSITION WANTED: Textile chemist desires position with small dyestuffs or chemical company. Lowell Textile Institute graduate; one year's experience; veteran. Write Box 114.

WANTED: Sulphur Black, Sulphur Navy, Ponsol Blues, all cotton dyestuffs, spot and future shipments. Write Box 112.

POSITION WANTED: Technical assistant to plant manager. Capable of handling development of new methods and processes in greige mills and finishing plants. Experience includes cotton, wool, silk and synthetics on yarns, cords and fabrics. Write Box 109.

WANTED: Dyer experienced on cotton piece goods with direct and sulphur colors. Supervisory ability desired. Established company operating in Philadelphia. Write Box 127.

WE BUY YOUR EXCESS INVENTORY OF DYESTUFFS AND INTERMEDIATES. WRITE BOX 128.

WANTED: JOBBERS or AGENTS for Philadelphia, New Jersey and Southern States to sell a good line of Synthetic detergent in powder form, liquid form and paste form. Also Cationic softeners and nonionic detergents. You will have protected territory as we have no salesmen in these states. Write Box 129.

POSITION WANTED: Textile Chemist and Colorist; over 17 years experience in application of all classes of dyestuffs to all fibers. Some resin experience. Desires position in technical sales or research. Capable of directing laboratory. Write Box 130.

WANTED: Plant manager with print plant experience to take charge of large screen printing plant in New England. State age, education, previous experience and salary desired. All replies confidential. Write Box 131.

Have you ordered a Binder for your Reporter copies?

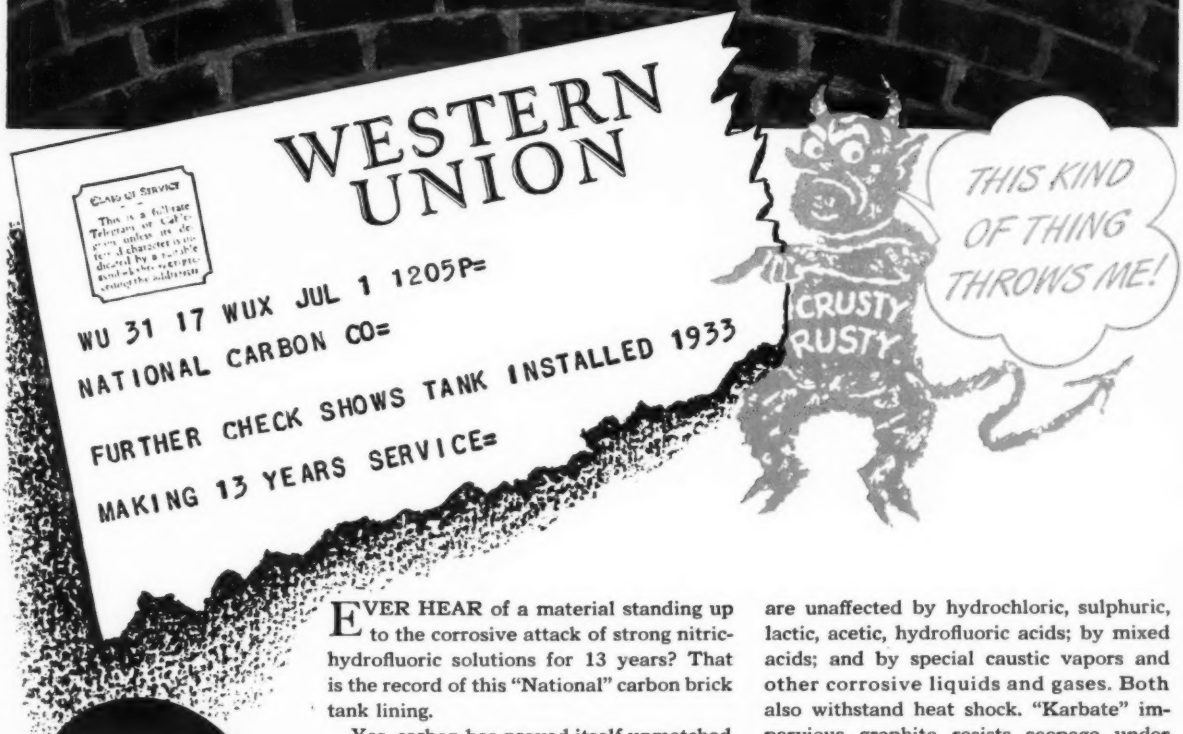
Maroon leatherette, gold lettered, large enough to hold twenty-six issues, only $2.50 post-paid.

Please send check with order to:

AMERICAN DYESTUFF REPORTER
ONE MADISON AVENUE
New York 10, N. Y.

13 YEARS IN NITRIC-HYDROFLUORIC SOLUTIONS!

Yet— THIS CARBON TANK LINING IS STILL IN GOOD OPERATING CONDITION!


WESTERN UNION
CLASS OF SERVICE
This is a full rate Telegram or Cable-gram unless its de-ferred character is indicated by a suitable symbol above or preceding the address.
WU 31 17 WUX JUL 1 1205P=
NATIONAL CARBON CO=
FURTHER CHECK SHOWS TANK INSTALLED 1933
MAKING 13 YEARS SERVICE=
CRUSTY RUSTY
THIS KIND OF THING THROWS ME!

WHATEVER YOUR PROBLEM —CONSIDER CARBON OR GRAPHITE

EVER HEAR of a material standing up to the corrosive attack of strong nitric-hydrofluoric solutions for 13 years? That is the record of this "National" carbon brick tank lining.

Yes, carbon has proved itself unmatched for lining acid-bearing tanks and towers. Equally useful for building these tanks and towers, with or without supporting walls, is "Karbate" impervious graphite.

These two lightweight, inert materials are unaffected by hydrochloric, sulphuric, lactic, acetic, hydrofluoric acids; by mixed acids; and by special caustic vapors and other corrosive liquids and gases. Both also withstand heat shock. "Karbate" impervious graphite resists seepage under pressure and is mechanically strong.

Both materials are available in brick and blocks, in standard and special shapes. For more details on how these materials can be useful in your plant, write Dept. PE.

NATIONAL CARBON COMPANY, INC.

Unit of Union Carbide and Carbon Corporation
The words "National" and "Karbate" are registered trade-marks of National Carbon Company, Inc.

UCC

30 East 42nd Street, New York 17, N. Y.
Division Sales Offices: Atlanta, Chicago, Dallas, Kansas City, New York, Pittsburgh, San Francisco

AROMINE

DYE-BATH ASSISTANT

Wetting Agent . . . Dyeing Assistant . . . Water Normalizer . . . Produces Brighter Shades . . . For All Fabrics.

Effective in hard water, acid or alkaline baths.

BURKART-SCHIER CHEMICAL CO.
CHATTANOOGA, TENNESSEE

This Man Creates EYE And BUY APPEAL

He is the textile chemist and dyer who gives eye appeal and buy appeal to thousands of textile products on the counters of stores all over the country. He has built fabrics to sales specifications.

Modern chemistry has made it possible to provide chromatic satisfaction at relatively trifling expense. People of today may easily gratify their color instinct in the clothes they wear and colors of greater beauty and endurance are constantly being made available to all.

Here at Burkart-Schier we are constantly alert to the challenge of the industry's new needs—developing and perfecting wet-processing agents that help today's textiles do a better job.

BURKART-SCHIER CHEMICAL CO.
CHATTANOOGA, TENNESSEE

MANUFACTURING CHEMISTS FOR THE TEXTILE INDUSTRY

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Exact Weight Scales Co.

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General Chemical Co.
General Dyestuff Corp. IX
Givaudan-Delawanna, Inc. XLI

Hart Products Corp. XXXI
Hardesty Co., W. C.
Hooker Electrochemical Co. XIV

International Salt Co., Inc.

Johnson & Son, Inc., S. C. XXXIX

Kali Manufacturing Co. XXX
Kearny Mfg. Co., Inc. XXXVI
Kelco Co.

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Leatex Chemical Co. XXXVIII
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Maywood Chemical Works XXIII
Monsanto Chemical Co.

National Aniline Division, Allied Chemical & Dye Corp. XV
National Carbon Co. XLIII
National Oil Products Co.
National Starch Products Inc XXV
Nova Chemical Corp. XXXVII
Nyanza Color & Chemical Co. IV

Onyx Oil & Chemical Co. X

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Perkins & Sons, Inc., B. F. XVIII
Philadelphia Quartz Co. XXXVIII
Procter & Gamble XXXV

Rayon Processing Co. of R. I.
Refined Products Co. XIII
Richmond Oil Soap & Chemical Co., Inc. XXX, XXXVI
Rohm & Haas Co.
Royce Chemical Co.
Rumford Chemical Co.

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Socony-Vacuum Oil Co., Inc. XVII
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Van Vlaanderen Machine Co XI
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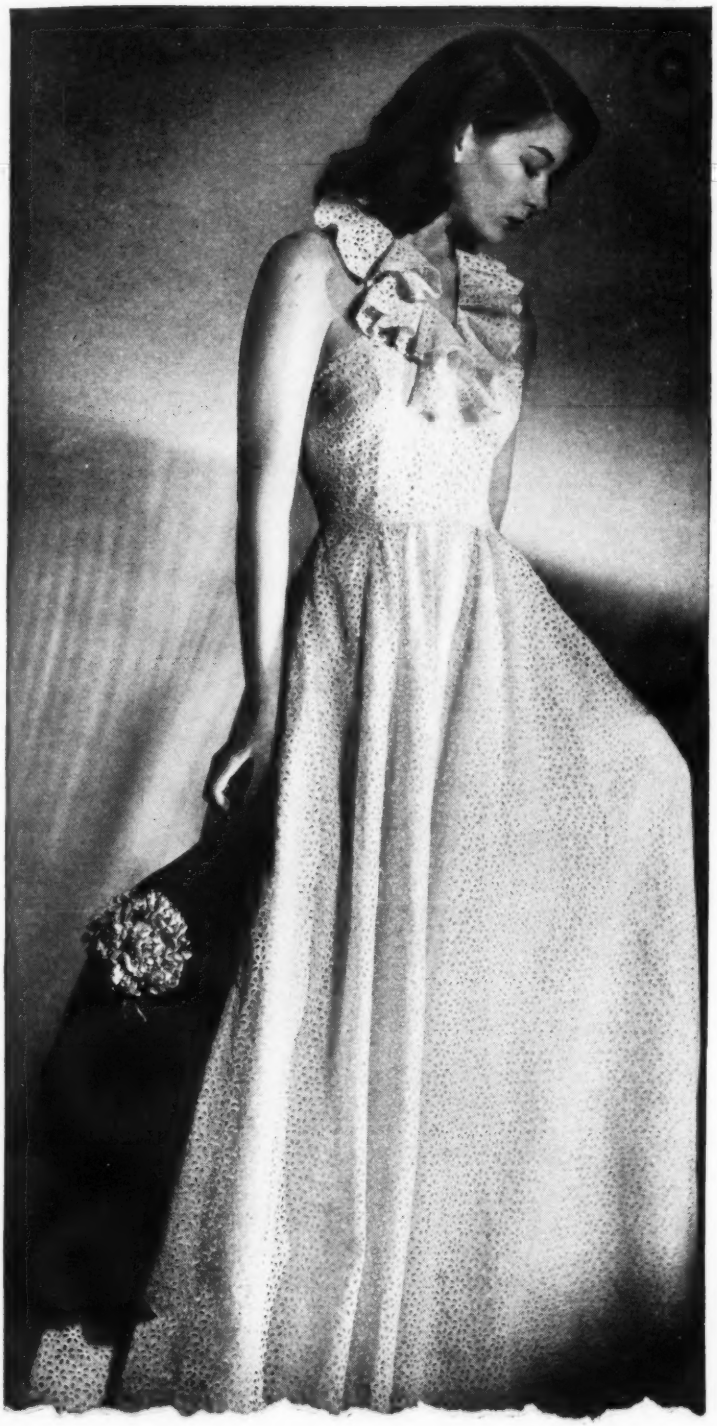

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